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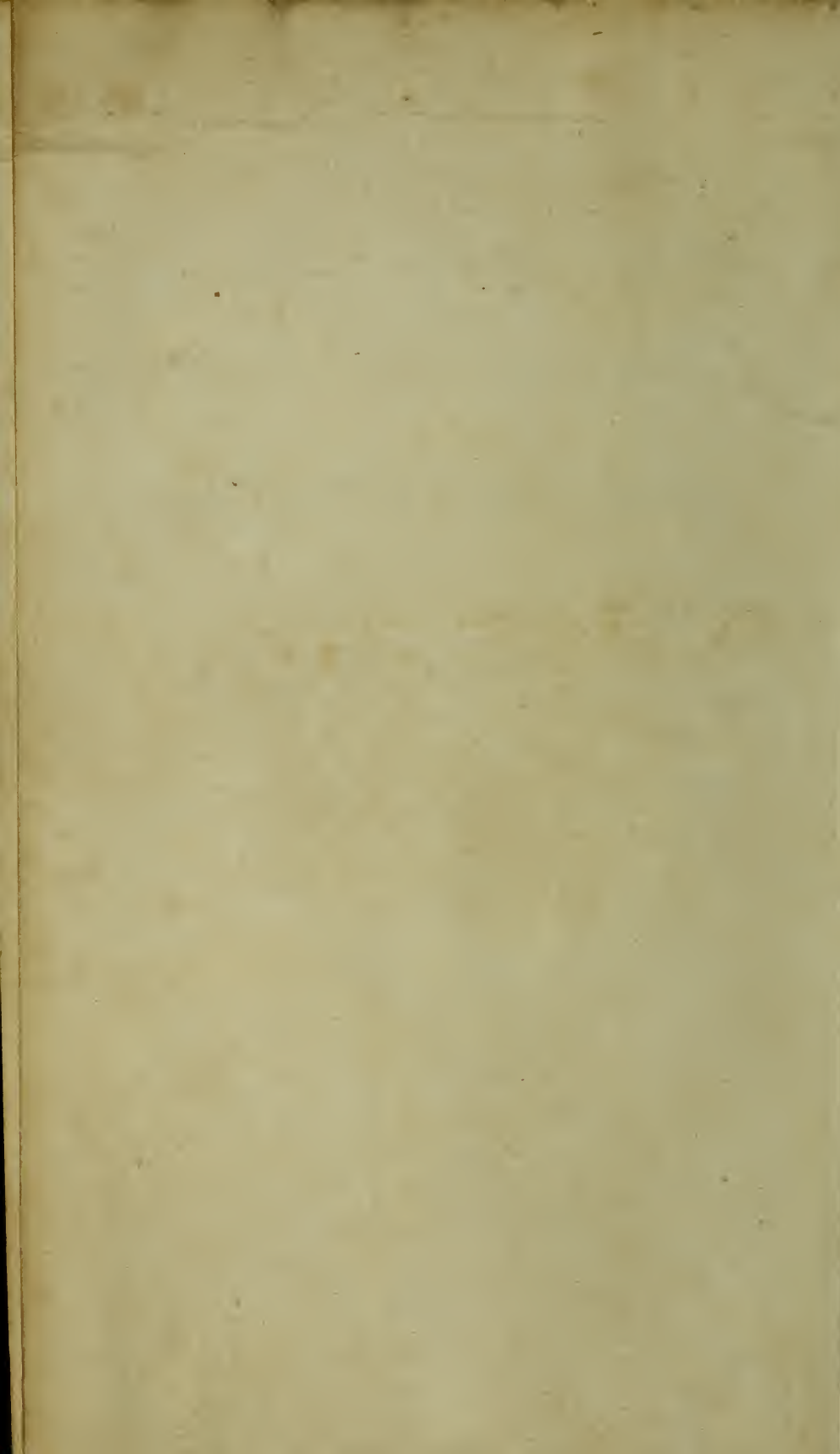
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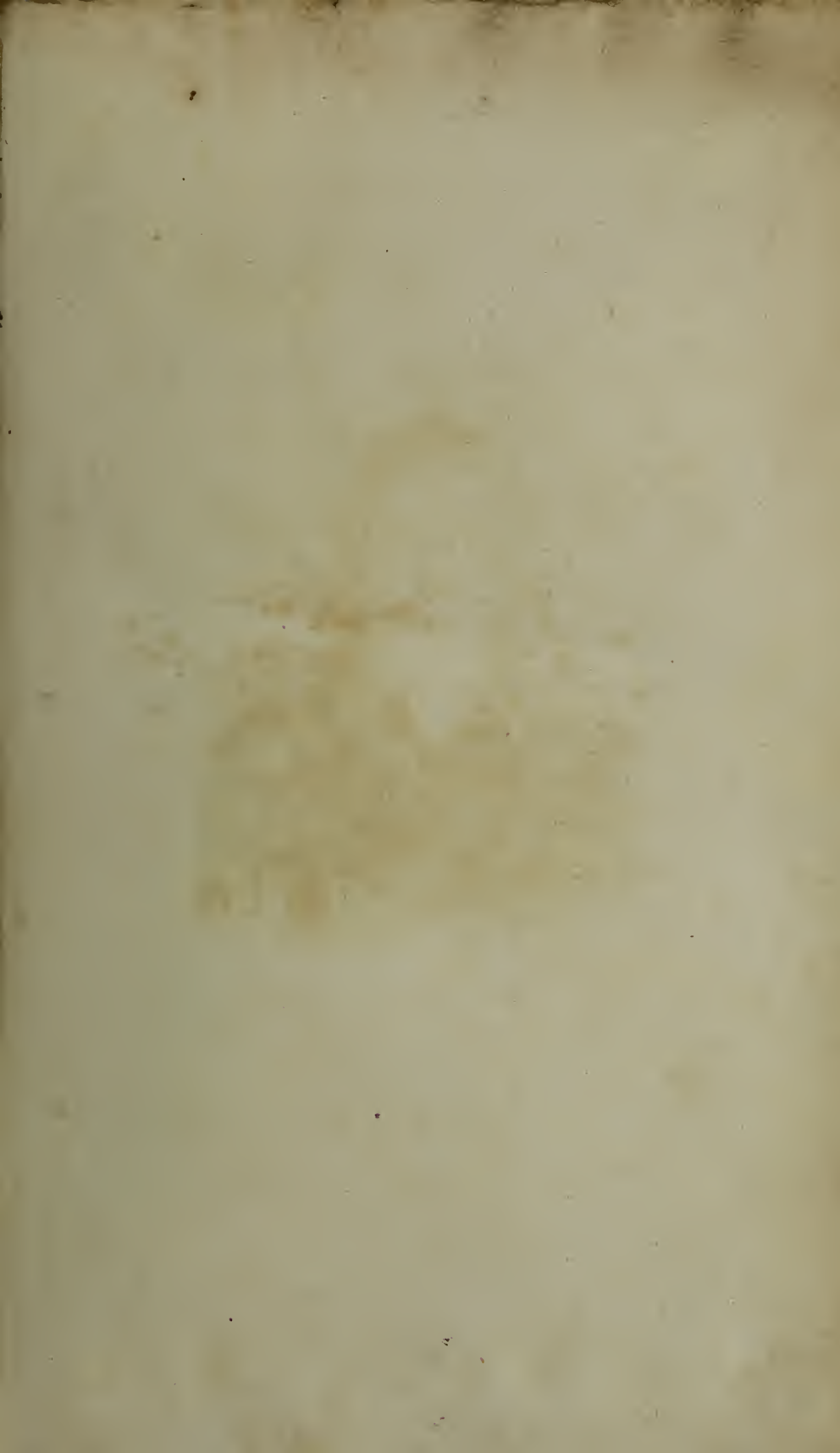
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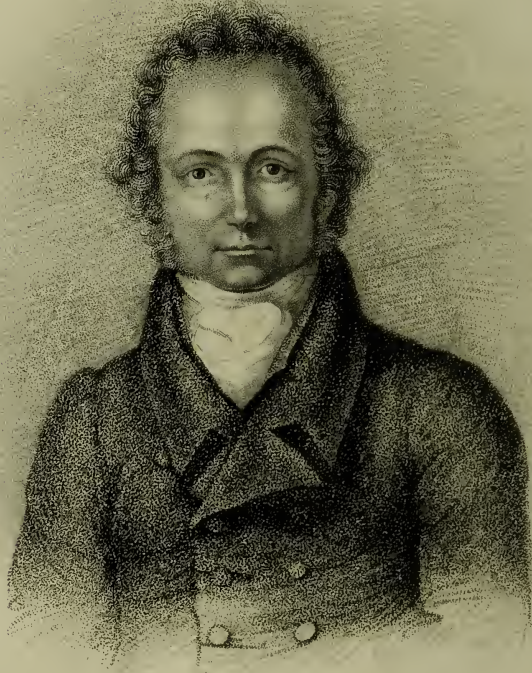
To the
Royal College of
Physicians of Edinburgh
from the Author

Handwritten text in cursive script, likely a signature or a short note, located in the upper right portion of the page. The ink is dark and the script is fluid and somewhat slanted.









Prud'homme dët & S. N.Y.

Peter Denildson,
Chirurgien.

*Veras morborum causas, naturasque docebo;
Quas experientia et industria comperi.*

REVIEW
Ex Libris Bibliothecæ.
 OF THE PRESENT

Systems of Medicine and Chirurgery

OF EUROPE AND AMERICA;

Colly. Phys. RESPECTFULLY DESIGNED *Med. Edin.*

To diffuse Medical Knowledge, and to essay the permanent establishment of the Experimental and Rational Practice of the Art, on fixed and solid bases, among Practitioners, by exhibiting all the New Discoveries, Inventions, Improvements and Additions, made by the Experienced and Learned Professors of Medicine and Chirurgery, herein collected, illustrated and digested, in a new method of arrangement, into a lucid System of Medical and Chirurgical Doctrines and Principles of the Science and Art,

VIEWED IN CONNEXION WITH

THE MOST REFINED PRINCIPLES AND DEMONSTRATIONS

OF

ANATOMY, PHYSIOLOGY, PATHOLOGY, NOSOLOGY, PHARMACY, CHYMISTRY,
 MATERIA MEDICA, MEDICAL JURISPRUDENCE AND PHILOSOPHY,

Which may, in any way or degree, contribute to advance

THE GLORY AND PERFECTION OF THE HEALING ART.

BY PETER DONALDSON,

A Licentiate of the Royal College of Chirurgeons of Edinburgh; late in the Hon. East
 India Company's service of London; now a Practitioner of Medicine, Chirurgery,
 and Obstetricy in the city of New-York.

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1821

Southern District of New-York, ss.

BE IT REMEMBERED, That on the 6th day of November, in the 46th year of the independence of the United States of America, PETER DONALDSON, of the said District, hath deposited in this office the title of a Book the right whereof he claims as Author, in the words following, to wit:

A Review of the present Systems of Medicine and Chirurgery of Europe and America; respectfully designed to diffuse Medical Knowledge, and to essay the permanent establishment of the Experimental and Rational Practice of the Art, on fixed and solid bases, among Practitioners, by exhibiting all the New Discoveries, Inventions, Improvements, and Additions, made by the Experienced and Learned Professors of Medicine and Chirurgery, herein collected, illustrated and digested, in a new method of arrangement into a lucid System of Medical and Chirurgical Doctrines and Principles of the Science and Art, viewed in connexion with the most refined principles and demonstrations of Anatomy, Physiology, Pathology, Nosology, Pharmacy, Chymistry, Materia Medica, Medical Jurisprudence and Philosophy, which may, in any way or degree, contribute to advance the glory and perfection of the Healing Art. By Peter Donaldson, a Licentiate of the Royal College of Chirurgeons of Edinburgh; late in the Hon. East India Company's service of London; now a Practitioner of Medicine, Chirurgery and Obstetricy in the city of New-York.

In conformity to the Act of the Congress of the United States, entitled "An Act for the encouragement of Learning, by securing the copies of Maps, Charts, and Books to the authors and proprietors of such copies, during the time therein mentioned." And also to an Act, entitled "an Act, supplementary to an Act, entitled an Act for the encouragement of Learning, by securing the copies of Maps, Charts, and Books, to the authors and proprietors of such copies, during the times therein mentioned, and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints."

JAMES DILL, Clerk of the Southern District of New-York.

R23962

TO ALL IMPARTIAL
PHYSICIANS AND CHIRURGEONS,

WHO MAY PERUSE THE FOLLOWING

Review of Medicine and Chirurgery.

GENTLEMEN,

THE characters you so worthily bear among the people of your respective nations, of being as generally distinguished by your humanity and benevolence as ye are universally esteemed for your skill, knowledge and erudition in your profession, have induced me to use the liberty of addressing you on this important occasion of publishing a Medical Review, designed to remove those impediments of the science which retard the progress of Medicine and give occasion to the enemies of our profession to complain of the imperfection of these arts. Very little reflection will be sufficient to convince every one in the profession of the absolute necessity of such an effort as this, not only to purge errors and explode false opinions, but to convey surer and more certain intelligence and information respecting the real nature, the causes, and the cure of all febrile diseases, especially the Plague of Egypt, Pestilence of America, Siam, West Indies, East Indies, Java, &c. which have baffled the skill and wisdom of all preceding ages. True, indeed, many eminent writers have improved our knowledge in febrile diseases, such as Armstrong, Bancroft, Jackson, Johnson, Hamilton, Rush, Gregory and others, but as far as I know none of those men of distinguished merit and celebrity have ever yet disclosed the latent nature of these formidable diseases, so as to enable us to cure them with as much ease and certainty as any common cases of inflammation. And this Medical Review, Gentlemen, is

respectfully offered to you, that you may impartially peruse its pages, review its doctrines, compare its principles with the sound maxims of Physiology and Pathology of the animal constitution, note the local observations made in different regions of the earth, approve or disapprove of the sentiments, therein contained and advanced, on solid grounds and proved facts, according to their agreement or disagreement with the sound theories and principles of the science and art of Medicine and Chirurgery, proved by infallible experience and confirmed by accurate observations; and may receive more adequate ideas and acquire more certain and true knowledge of those pestilences of the world, than we and all the Physicians of antiquity have ever been able to obtain since the beginning of human calamities. It is not the vanity of thinking that such a performance would teach you in the exercise of your profession in these dominions, it is not the ambition of becoming an Author, it is not the desire of perishable renown, it is not the sordid thirst of gain, it is not the pride of supposing that I have made discoveries in Medicine worthy of your praise, that has induced me to present the following illustrations to you, Gentlemen; but it is the full conviction of all preceding writers, who have ever lived in the midst of these pestilences and have delivered their opinions to us, having been egregiously mistaken in their views of their natures, causes, characters, distinctions, prognostications, indications and methods of curation, and consequently having communicated their false opinions of them to the uttermost boundaries of Europe, Asia and America, that has led me to come forward to undeceive men, who, like myself, may have been deceived by writers respecting these dreadful diseases, especially the great and terrible pestilences of America, Siam, Indies, Egypt, &c. where they sweep their millions from the face of nature as with the besom of destruction, and mingle them with their kindred dust. It is solely the impulse of the consciousness of this truth and well-attested fact, that has led me to the determination of undeceiving the world and of tendering my labours, sentiments and testimonies for the glory and advancement of the science and art of Medicine and Chirurgery. This resolution combined with the desire of benefiting my fellow-men hath caused me to venture to unfold the

natures, disclose the causes, define the characters, delineate the modifications, institute the most infallible indications and the most certain methods of curing all those hideous distempers, which have so terribly molested and destroyed the most part of the human species since the creation of the world. Being fully convinced of the truth and certainty of this position by the experience of years in various and different regions of the earth, (as well as in the continent of America where these diseases assume the most malignant forms) confirmed by repeated observations and dissections of dead bodies, I am impelled to communicate all the improvements I have been able to make in the art of curing diseases. The discoveries, the emendations, the additions, and the illustrations which we shall exhibit in the following Review, involve the knowledge, description and curation of all modifications of fevers and inflammations on the basis of a new theory, established by practice, experience, observations, and indubitable testimonies of authors, that will present the most unequivocal evidences of the doctrines and opinions therein advanced to the senses and understandings of all impartial and candid readers, who can never deign themselves to espouse the cause of the spirit of opposition to retard the progress of Medicine, and to doom our noble profession to universal disgrace. Indeed we are assured by well authenticated facts and testimonies on record, over which we have no control, that these diseases are neither understood in Europe nor in the wide dominions of the Western Hemisphere; that impenetrable obscurities have concealed them from the views of men in all former ages; and that the present day cannot boast of their discoveries in the knowledge of these formidable diseases. But to essay the discovery of the secret nature, the elucidation of the real character, the explanation of the causes, and the institution of the method of curing those disorders, boldly, in the midst of the invidious discordancies and cavillations of our contemporary Practitioners, let us proffer those well attested facts, which, by experience and observations, will be found sufficient to unfold their hidden nature, expound their real causes and establish the method of their curation, in order that all men in every nation and region of the earth may know the certainties of those things which we all must know to ensure success in the practice of our profession, which things, we

say, all Practitioners ought to understand, but are in the present day scarcely rumoured among us and lie in doubt and obscurity. Many famous writers indeed have attempted to define the characters, to explain the causes, to distinguish the imagined differences and to institute the methods of treating of these diseases ; but who among them in any age or nation has succeeded in revealing their essential natures on which all the success of Physicians depends in conducting their cures ? Surely, then, to effect this great end, that we might be enabled to liberate myriads of our fellow-men from the iron grasp of their invincible enemies, would be conferring the most substantial, unequivocal, and lasting benefits on the human family. For these unconquerable pestilences which sweep them in the manner of the plague of Egypt and waste them at noon day, ever have been, and ever will be the scourge of human nature, if some great preventive and curative method of treatment is not devised or disclosed to rescue them from the dangers and effects of these destroying plagues. We only require your liberal encouragement, your benevolence, and your favour, Gentlemen, to enable us to accomplish this great and laudable design in a manner that will preserve the dignity, advance the glory, increase the degree of perfection, hasten the progress of the science and art of Medicine, and will reflect honour of the most substantial kind on all those impartial and voluntary favourers and countenancers, throughout the extended dominions of the sciences, letters and the arts. It is hoped in reliance on your liberality and love of the science, Gentlemen, that any undertaking of this nature alone will not be deemed presumptuous on the grounds of the importance extent, magnitude, and the difficulties of the completion of the work, when we consider, that our illustrations were originally designed and wholly tend to remove all those impediments and causes which resist and retard the progress of Medicine and Chirurgery ; and we also trust, that all those of liberal minds and dignified souls will always be willing and ready to encourage the evolutions of genius, and be ever inclined to countenance the labours of any merit, or ingenuity, or virtue in other promoters of the healing art. I presume, Gentlemen, that no man in existence can deem himself too wise to be taught, too knowing to learn and too expert to require direction. The science of Medicine has been

progressive for these 5821 years preceding this period of our existence, and we must all acknowledge its great imperfections even in this advanced state, and certainly our career in the profession of Medicine is a continual series of successive and progressive procedure, experience, observation, improvement, learning, investigation and correction in this state of probation and imperfection. And can it be thought premature to premise those great subjects which may open a wide field of investigation and research to future inquirers and observers, who may, by superior talents and dint of industry, bring the science and art of Medicine to that degree of perfection to which we are attempting to aspire in this age of the world? In this manner, the immortal Hippocrates, the parent of rational Medicine, proceeded to collect the scattered theories of diseases, and to reduce them into a system of practical maxims and directions, which he extracted from the writings of Asclepiades, culled from the votive tables in the temple of *Æsculapius*, and obtained from infallible experience and observations in the chambers of the sick and the afflicted of his fellow-creatures. His undertaking was great and his work was immense, but his labours were as unremitting and his investigations as assiduous as his task was difficult. This spirit of enterprise and perseverance carried him through all difficulties and enabled him to produce a work which has diffused its benign influence through the extended dominions of the eastern, and has, doubtless, reflected its precious rays on the Schools of Medicine in the western hemisphere of the globe. This great benefactor of his fellow-mortals, who was endowed by nature and erudition to effect that original work of stupendous labour and merit, was a mere man as we are in human nature; but possessed those pre-eminent virtues and qualifications, which raised him above us all, and merited the praises of ages. He was mild and placid in his appearance, dignified in his deportment, gracious in his behaviour, venerable in his aspect, adorned with gray hairs flowing on his shoulders; honoured by all his cotemporaries and his memory is enriched by the praises of the millions of succeeding ages. With such an example before us shall we decline to imitate the virtues and qualities of so great a parent, whose writings live, and will live in the admiration and esteem of millions of the Sons of Medicine, to the consum-

mation of the natural world? If I was personally known to you, Gentlemen, I would have no occasion to add, that the subsequent Medical Review shall contain useful and interesting matter only; that nothing foreign to our subject, nothing uninteresting to the studious and inquiring mind, nothing absurd, scurrilous, opprobrious or invective, shall enter its pages, and that the illustrative descriptions of every disease incident to the human body will be accompanied with laconic but perspicuous, dense but comprehensive, critical but instructive animadversions on the opinions and doctrines or errors of men contained in the ancient and modern systems of Medicine and Chirurgery.

And to convey some adequate ideas of the utilities and nature of this work, and its differences from all other periodical publications on Medicine we shall here present a prospective scheme of the method we intend to follow in this Review of Medicine and Chirurgery.

We intend, in four preliminary dissertations, to review the History of Medicine from its earliest ages down to the present day; to exhibit our motives for publishing the work, the utilities, the impediments, the errors, and the benefits of the science and art; to propose a new and simple method of arranging diseases into two grand divisions as the easiest and most unexceptionable scheme hitherto devised; and to introduce the subject by an extensive history of febrile diseases which constitute the first great division of all distempers incident to men. We design also in our illustrations of Medicine to survey the particular history, the nature, the character, the symptoms, the distinction, the prognostication, the indications, and the curation of every disease in nature in distinct heads, under each modification and combination of diseases, comprised in their respective divisions; and in our demonstrations of Chirurgery to survey the principles and practices of the art in every distinct and particular operation which can pertain to the province and office of a Chirurgeon in the exercise of his exalted profession.

I am, Gentlemen,

Your most Obedient Servant,

PETER DONALDSON.

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A

REVIEW

OF THE PRESENT

Systems of Medicine & Chirurgery.

INTRODUCTION.

PURSUANT to the execution of our design of publishing a Review of the various Systems of Medicine and Chirurgery, which is solely intended to advance the glory and perfection of the healing Art, we have this day commenced the first series of our critical illustrations of that most important subject, the theory and practice of these arts; designed to diffuse medical knowledge among all men, and to render the practice of the profession more stable among Physicians and Chirurgeons throughout the extended dominions of the globe, where these elucidations may accidentally come.

These demonstrative illustrations of Medicine and Chirurgery, which we purpose to give in the subsequent Review, are such as are absolutely necessary to all those sons of Æsculapius, who wish to excel in the science and to prosper in the art of Medicine and Chirurgery. For these intended elucidations will comprehend all the useful materials of instruction and information, that can be derived from the different branches of the science; all that is bene-

ficial and useful to mankind in the art of Medicine and Chirurgery centre in them, and all that is great and good in the profession will originate in the themes of these contemplations. The demonstrations of Anatomy teach us the structure and connexion of the human system; the expositions of Physiology teach us the nature and functions of the human constitution; the manifestations of Pathology teach us the nature and seats of diseases; the explanations of Pharmacy teach us the virtues and compositions of Medicines; the institutes of Medicine teach us all the doctrines of the science; the principles of Chirurgery teach us the foundations of the art; the illuminations and experiments of Chymistry teach us the natures or elements of all material bodies, and expound the natural and peculiar laws which govern them; Botany unfolds to us the affinities, characters, properties and virtues of plants; Obstetrics delivers rules for directing the tenour of our attendance on parturient women; but these illustrations all unite to teach the practice of these arts, which immediately involve the exertions of Physicians and Chirurgeons in curing diseases, and relieving the sorrows of mankind. All the utilities and advantages of the science centre in this practice, which affords these substantial and unequivocal benefits to the human race.

Indeed the Practice of Medicine is that noble part of the science, which occupies the lives and labours of Physicians among their fellow-men, is founded on the principles of it, and requires all those preparatory branches, which we have just mentioned to qualify them to exercise this healing art, with success, honour, and estimation in the world. And what could be more advantageous to all men? what could be more pleasing to the souls of the benevolent persons of Society, than to feel the consciousness of having relieved the miseries of their fellow-crea-

tures? Truly the benefits of these arts of Medicine and Chirurgery extended to all nations of the earth, in all their modern perfections, are so great and important, in comparison to the utilities of all other arts and sciences, that they claim the highest attentions of all men living in this world of sorrows. That practical part of these sciences, which consists in the matured knowledge and erudition of their professors, qualified and prepared by the studies of all those preliminary branches, is the sum of Medicine and Chirurgery that confers all the utilities and benefits of these arts on mankind. We will see the excellencies of these arts by contrasting the miseries of men with the solaces and deliverances afforded by Medicine and Chirurgery. No benevolent Physician nor Chirurgeon among us could endure to behold his fellow-mortals languishing in misery and sickness, without attempting to alleviate their sorrows; could any feeling practitioner see them die without affording them all necessary relief? Could any one decline to serve them without expecting any compensation in cases of indigence and disease? I hope, for the honour of human nature, I trust, for the honour of our profession, I would fain hope, for the honour of the nation, that no such inhuman persons could be found among us in these extensive dominions. Who among us could bear to see his family dying under fatal diseases, without seeking the means of their recovery? What husband in any nation or people could hear the groans of his partner in life, without desiring to relieve her agonies? What wife could rest to behold her beloved head sinking under bodily distemper, without experiencing the pains of compassion and lamentation? What parents among us in the garbs of human nature could stand still in indifference to see his dearest offspring consuming by the miseries and tortures of disease without affording them that solace and relief which natural

affection has dictated to them ? And what would sickened mortals not give to be liberated from all those most exquisite of all human tortures, which the racking rheums, the colic pangs, the agonies of gravels, the anguish of dysenteries, the horrors of hypochondriasis, the terrors and commotions of hysterics, the miseries of palsies, the pains of inflammations, and the sinking languors of fevers produce ? What would dying mortals not give in exchange for their lives and terrestrial enjoyments in the hours of dissolution and despair ? Surely, then, the science and art of Medicine and Chirurgery, which are designed to teach and qualify men, with all necessary instructions and learning, to practise these arts with the greatest success and benefit to their fellow-mortals, are worthy of the highest attention of all men, and those skilful Practitioners who are qualified to confer the most substantial and lasting benefits on society, are worthy of the greatest honour and esteem among their people. While we enjoy health we cannot estimate the value of these arts of Medicine and Chirurgery, we can have no means of calculating their worth, until sickness and distress approach to deprive us of all the pleasures of terrestrial enjoyments, and load us with the miseries of disease, when we are compelled to apply to Physicians or Chirurgeons for medical aid, and to seek the assistance of these men whose sole professional duties consist in relieving the miseries and afflictions of their fellow-creatures. And should these judicious professors of the healing art, be baffled to mitigate or remove the agonies of their distempers, ah, how little would it profit them to hear of the forests of Lebanon or the balmy mountains of Gilead, if there was no balsam for their wounds and no Physician there ? Horrors of despair would reign in them and the pangs of death would lay hold upon them. On the other hand, what unspeakable consolation does it af-

ford a man in sickness and despair to obtain and receive the hopes of preservation in the promises of his Physician, who will never abuse the confidence placed in him? What science among men can boast of so many victories over the King of Terrors as Medicine or Chirurgery? Can any other science or art rescue men from the jaws of death, and restore them to health and happiness in this lower world? No; surely, then, the superiority of the science of Medicine and Chirurgery to all other sciences in the world, will appear evident, on comparing the utilities and advantages resulting from the practice of the profession. Indeed, great respect is paid to the speculative sciences, great attention is paid to the pure mathematics, to metaphysics, to astronomy, to the rational and mechanical philosophies, and to all the common arts which are due to them, and all centre in the sublime and refined pleasures of intellectual exercise; but how much more respect, think ye, should be paid to that glorious science, which promises to furnish the intellectual man with principles and doctrines in theory, to enable him to excel in the practice of the healing art, and to bring the greatest benefits to mankind in curing and preventing their diseases? Surely the science that directly terminates in the practice of the art of curing diseases, is far more beneficial to sickening mortals, and merits the highest attention of all men, as it learns us to assuage the agonies of our fellow creatures, to revive the languor of sickness, to restore impaired senses, to preserve life tolerable and lengthen their shortened days. The most exalted of the speculative philosophers, how excellent soever he may be among the rest of mankind, how meritorious soever he may be esteemed in promoting and advancing the natural sciences, even a Newton, a Locke, a Bacon, a Descartes, an Aristotle, or a Socrates, weighed in the scales of reason against the skilful and virtuous practising physician, like a Gregory,

a Willis, a Hebredeu, a Haller, a Cullen, a Hamilton, a Boerhaave, a Hippocrates, or a Sydenham, would be found wanting in the balance of utility and benefit to mankind.

As life is involved in miseries, those men should be esteemed the most worthy and greatest members of society, whose qualifications and exertions all unite and are employed to remove or alleviate these sorrows. What would it avail a sick man, that a new metal was discovered, a new planet seen, a new theory broached, or an old doctrine exploded, or even a new law enacted, or a new problem invented? What would it profit a sickening mortal, we say, that all the speculative sciences are carried to their utmost perfection, if no relief could be given to remove his bodily pain and mental anguish? What would it profit a man, although he gained the whole world, if nothing in nature could afford him the smallest relief? The absence of bodily health, which is one of the chief constituents of our happiness in this lower world, would render all other terrestrial enjoyments and blessings insipid and comfortless; nothing in nature could compensate the loss of it; nothing on earth could give him consolation; nothing in social life could mitigate his sufferings; nothing in religion could assuage his bodily pains; all his affections, all his appetites, all his desires, all pleasures of intellectual exercises and senses would be absorbed in the passions of distress and despair, and would be demerged in the ocean of the human miseries that he endured.

But it concerns all men living, in sickness and in health, in opulence and in indigence, to appreciate the value of remedies presented to them for preventing or removing their racking rheums, their excruciating gravels, their oppressive fevers, their miserable blindness and deafness, their wretched lameness and madness, and to embrace them as the last hopes of preservation, and the only means of liberation from

despair. Oh, how a man would cling to the earth on the least promises of restoration in the dismal hours of death! but, alas! his corporeal strength is gone, his spirits are done, all earthly enjoyments are gone for ever, and his soul must wing its flight to the presence of the Eternal, and his body must descend to the mansions of the dead. How awful the thought, the loss of health and happiness! how dismal the prospect of dissolution! how tremendous the wreck of human nature in death! when sickness, sorrow, and the King of Terrors shake the pillars of human nature, and consign mortals to their eternal destinies. It is not enough that we live in the world, but it is necessary that we live in happiness; it is not enough that we have an existence, but it concerns us all that we possess the fruitions of nature in well being; consequently, the science and the art, which tends to the preservation or the restoration of this terrestrial happiness, as far excels all other arts and sciences as the sun excels the moon in glory and influence.

The profession of medicine and chirurgery, therefore, in the hands of judicious and learned men, is worthy of the highest honour and estimation, and will always receive such from all those who know its nature, or can form just ideas of its utility, and will bestow their esteem, not on the dazzling objects of empty pretensions, but on those who exert themselves to confer the most substantial, unequivocal, and lasting benefits on their fellow men. Thus noble is the profession of Medicine and Chirurgery, exercised by the judicious and virtuous physicians all over Europe and America, that all its professors, usually acting up to the dignity and glory of the science, enjoy the general benevolence and gratitude, the honour and the esteem of whole nations, where the fame of their names is heard. Its professors, deeply versed in natural and moral philosophy,

adorned with polite letters, learned in other arts and sciences, graced with all social accomplishments, and distinguished by the most benign sentiments of humanity, that render them beloved in society, pleasant in conversation, and esteemed in practice, like guardian angels approach the beds of the sick, relieve their distresses, and solace their languid spirits.

Thus nobly qualified and endowed by nature and education, they despise all the low art and chicanery of the sophist, the venality of the avaricious, the hypocrisy of the ignorant, the ribaldry of the vile, and the dissimulation and imposition of the quack. With the skill and compassion of superior beings they display, in the hours of unspeakable anguish of their fellow-mortals, a composure of mind, a serenity of countenance, a benignity of soul, and a tenderness of heart towards their suffering patients, which would tend to alleviate their distresses and console them in the hours of dissolution. Those same men of meritorious worth advance to the sick, as the preservers of the peace of families, the preservers of lives, the comforters of the afflicted ; and even become the hopes of the despondent, when all hopes of the sick are about to expand their wings and depart for ever. In their social evenings they mingle in the company of the honourable and the worthy, and diffuse such brilliancy of wit and good humour, such radiance of wisdom, cheerfulness of countenance, animation of spirits, and essence of sociability, arising from the consciousness of having spent the past day in alleviating the miseries of their fellow-creatures, that would merit the honours of the most exalted of the human family.

Those excellent men, persons of dignified souls, spurn at the pompous and the audacious, the self-sufficient, and the affected air and behaviour of the vain arrogant, and condemn the mein and temerity of the novice. The blus-

tering manners of the self-condemned pretenders, the unfeeling temper of the cruel, the avarice of the miser, the dissimulation of the unskilful, never forms any part of their amiable characters. Skilful and learned, prudent and wise, they are masters of the art they profess, and they have no need to be afraid of exposures. Nothing mean, nothing low, nothing vile appear in them, and they live in good terms with all men. Those eminently qualified and gifted professors of Medicine and Chirurgery, possess all those virtues and abilities, that will ever render them benevolent to their fellow-citizens and esteemed in the world. The penetrating genius of which they are generally possessed, the sound judgment, the quick apprehension, the diligence of their researches, their experience and observations, enable them to acquire that depth of medical knowledge, which carries them through all the difficulties of the profession, and will bear them out in the midst of ruined reputations. The noble intelligence and dignified deportment of such men, make them revered among the people of their respective nations. Their profound knowledge of the theory and practice of the salutiferous art, enables them to discover the nature, the causes, and the cure of every disease in nature, that comes under their care, with one qualified glance of their enlightened intellects ; none need be afraid to intrust their persons and lives to them in the exercise of their renowned profession. If any thing is singular in them, it is a singular ingenuity, singular politeness, singular benevolence, and singular magnanimity ; for they give much of their time and talents to the services of the poor, to the clergy, to those of their own profession, and to strangers without expecting the smallest recompense. Maniacs and lunatics, clinics and parturient women in hospitals and asylums, receive the gratuitous aid of those benevolent men. Temperance, sobriety, candour, fortitude, prudence, pa-

tience, humanity, benevolence, veracity, diligence and perseverance, are qualities and virtues so necessary to a physician, that all his other scientific acquirements without them, would be obscured, or null and void, in the midst of confusion and detestation.

It would be good for the science and art of Medicine and Chirurgery, if all their authors were endowed with something of the acute and comprehensive genius of Aristotle, the elegance of Plato, the rational experience of Hippocrates ; the invention of Homer, the sagacity of Newton, the judgment of Maro, the soul of Alexander, and the wisdom of Solomon ; it would be favourable, I say, for the healing art, if all its professors had the opulence of Cræsus and the good fortune of Cyrus united to all those endowments which render them esteemed in the science and successful in the practice of their profession. Then the science would not be infested with vain and mercenary speculators, who have chosen the vocation on purpose to gain a living and to amass wealth to themselves ; nor would the practice of the art be disgraced by pretenders, who would sacrifice their own consciences and the lives of their patients, to win the object of their desires.

All novices in the profession, being either moved by avarice to use artful methods of acquiring money, even at the expense of all conscious virtues, or being compelled to use every species of dissimulation to bear them out among the rest of the practitioners, struggle under vast difficulties, and generally become famous in the dexterity of destroying. Nothing in religion, nothing in morality, nothing in conscience, nothing in heaven or in earth will deter such men from the injurious iniquities of their doings. But it is unfortunate for men in general, that none in human society are qualified to judge of the abilities and merits, none are able to estimate the worth of Physicians, except the impartial

professors of the same art. Yet there are some notorious marks in the behaviour and characters of many practitioners, that are sufficient to display their talents and to reveal the nature of their characters. If we observe a man to have blustering manners, a versatile conversation, an impatient and a volatile appearance, a vain-glorious garrulity, indifferent about the condition of his patients, instantaneous in his decisions, promising a great deal and performing little, we may record his name in the annals of the times, and exclaim in the language of the great orator of Rome, "O tempora ! O mores !" O times ! O manners ! for you may be assured that he is not sufficiently qualified, nor naturally endowed to exercise the art of Medicine and Chirurgery with honour and benefit to mankind. If, on the contrary, we see a Physician solemnly approaching the sick, gravely inquiring into the most important circumstances and symptoms of their several cases, examining into the nature and causes of their diseases, and with the profoundest diligence and attention inquiring into their feelings, pains, urine, sweating, thirst, state of their bowels, the appearance of their stools, their menstruations, pregnancies, deliveries, their previous habits, the nature and quantity of their food, the situations of their bedchambers, their occupations, their ages, their constitutions, the uses or abuses of medicine, the time and place of their sickness, &c. and candidly returning us the matured results of a well informed understanding and judgment of the nature and causes of their diseases, we may write his name among the annals of our grateful remembrance ; for surely he is a judicious and skilful practitioner, unless some awful defects existed in his education. When we behold a Physician approaching the beds of the sick with an insipid indifference, asking a few cursory questions, appearing seemingly appalled at the unknown nature of the case, supposing

it to be this disease or that disease, wavering in uncertainty and ignorance of the present disorder, returning no definite answer, or professing his non-comprehension of the disease, or pretending in great self-confidence of being able to cure the patient, we may class him among the fools of the profession. It seems unnecessary to say any thing more respecting the Professors of Medicine and Chirurgery, as we will be enabled to see all things, to understand all things, judge and determine all things in our own minds, after we have perused the pages of the following Review, only I would caution all those who are not of the profession, to beware of the fascinating promises and nostrums of lying impostors, who, being treacherous men, will cajole you out of your money and treat you with secure contempt. Note it down in the book of your remembrance, that a deceiver is an impostor, that a practitioner promising more than he can perform is a deceiver, that remedies promising to cure all diseases will cure no diseases, and that medicaments of profound mystery are good for nothing. Men may promise to cure all cases that come under their care, but the greatest number of their patients die unrelieved by them. This circumstance argues great defects of their knowledge and skill in the practice of the art.

The very remembrance of the professional oath of the great parent of rational Medicine, is sufficient to win the benevolence of the world, and gnaw the consciences of impostors in the profession. All the great and good qualities and virtues of a faithful physician seem to have united in him, and to convey some adequate notions of those excellent qualifications to you, we shall extract this oath from the original Greek, as it appears in his admirable works, which is as follows:

“I swear by Apollo the Physician, and Æsculapius, and Hygia, and Panacea, and all the gods and goddesses, my

constituted judges, that I shall fully observe both my oath and promise, according to my power and judgment, that I shall indeed esteem the preceptor who taught me this art as a parent, and shall communicate and supply him, with a grateful mind, all necessaries of life; and his posterity shall be in the same place of german brothers, and I shall teach them, if they wish to learn this art, without compensation and obligation. That I shall also make his children as my children partakers of my precepts and discourses and all the rest of the discipline, also disciples, who may have given their name and faith, on oath, to a physician. That I shall prescribe, too, a proportion of victuals, as far as I shall be able to follow in ability and judgment, useful for the sick. Influenced by the entreaties of any one, I shall neither administer a deadly medicine to any, nor shall be the author of that thing. Nor, in a similar manner, shall I exhibit to a woman a suppository to destroy the fruit of her womb; but I shall continually preserve my life, as well as my art, chaste and pure from all wickedness. Neither shall I cut those labouring under the stone, but shall submit them to masters skilled in the practice of that art. Into whatever house I shall enter, I shall enter for the safety of the sick, fleeing all suspicion of doing injury and carrying on corruption; especially the desire of venery towards women, both freeborn and slaves. What I may have either seen or heard among the sick, least appertaining to medicine, in common conversation, what ought by no means to be brought into public notice, deeming these to be secrets, I shall pass in silence. If, therefore, I shall have faithfully observed this my oath, and have not in the least made it void, let me lead a happy life, continually, with the highest estimation among all men, and see the most abundant fruits of the art. But, if

I shall have violated and perjured that, let the contrary happen to me."

In this juratory promise of the parent of rational Medicine, we perceive the most laudable sentiments of gratitude towards his beloved preceptor, his benevolence and beneficence towards his posterity, his noble resolution to preserve the dignity and honour of the science and art, as well as to keep his name and character free from all imputations, in the exercise of his profession ; we are led to admire and imitate his faithfulness and candour, his integrity and diligence in the cause of his patients, we can estimate his industry and perseverance in curing them ; we behold his wise determination to reveal no secrets, to bear a sovereign contempt of all corruption and destructive suppositories, his earnest desire to see the art flourish in the hands of wise and judicious men, to lead a life of happiness in estimation among all men, and to enjoy the conscious pleasures of seeing the progress and prosperity of Medicine in the abundant fruits of his labours. And can any man living on the face of nature blame us for imitating the virtues of so great a master ? Can any of the profession accuse me of adopting the sentiments of so great a parent of the science and art of Medicine ? Every practitioner ought to possess the virtues and qualifications of this father of the rational art, to ensure his success and estimation in practice. Let us proceed, therefore, to strip our noble profession of all mystery and imposture, and clothe it with the dress of simplicity and intelligence in medical knowledge, that virtues and duties may become a part of our academical education in all our seminaries of learning ; that truths may triumph over errors ; that candour, integrity, faithfulness, equity, justice, benevolence, and compassion, may prevail to the honour of all its pro-

fessors, possessed of merit, skill, knowledge, and erudition: How long shall the human mind bend beneath the force of barbarous passions? How far shall the animosities of physicians carry them? When will they cease to bite and devour each other? What will quiet their jealousies, envies, and enmities, among themselves? How shall we lay their malevolence and calumnies for ever to rest? When shall we cease to be mere scholars, and become wise philosophers, judicious and faithful physicians, skilled chirurgeons, learned citizens, and useful men? In defiance of all calumnies, let us imitate, as we admire, the virtues and qualities of Hippocrates and Sydenham, who observed their duties to their fellow-men and obligations to their God, merited the admiration and praise of posterity in their lives and profession, and fell asleep in the arms of the ALMIGHTY, in the substantial hopes of immortal glory. These are human examples of moral virtues, professional qualifications, and eminent talents; but we have a divine Pattern to follow and imitate, the Lord of life and glory, whose days were wholly spent in healing the diseases of the souls and bodies of mortals; for, Jesus traversed all Judea, teaching in their Synagogues, preaching the glad tidings of the Kingdom of Heaven, and healing all manner of sickness and all manner of disease, gratuitously, among the people of all nations, Math. iv. 23. and his fame did spread to the utmost boundaries of nature. Let us, then, proceed, in reliance on the divine favour of Jehovah, reconciled in Jesus, to do his will in our lives, in observing all those duties and obligations to our God and fellow-men, which render us conscientious expectants of heavenly blessing on all our undertakings in this lower world.

A

BRIEF HISTORY
OF
EPIDEMIC PESTILENCES,

FROM THE EARLIEST AGES TO THE PRESENT DAY.

To deliver an useful system of the doctrines and principles, and to institute surer methods of directing the practice of Medicine and Chirurgery, is so immense an undertaking, being attended with so many difficulties, that many celebrated professors of the science have been deterred from attempting it. Even the most experienced physicians, after a period of thirty or forty years of practice, reading and reflection, have been hindered, by diffidence and despondence, from entering on such a work, lest it should meet with the fate of all preceding writings on Medicine. If all men should be thus diseouraged and decline to essay the accomplishment of this work, the science and art of Medicine would be impeded by uncertainties and doomed to imperfection and confusion: the practice of the art would be confined to a blind routine or a round of remedies, and would perpetually fluctuate on false principles and theories, in the hands of practitioners. But to add improvements to the science and art of medicine, is the incumbent duty of every physician, who is conscious that he can advance its progress and increase its utilities to men, the duty of his station that never can be dispensed

with, on any occasion, without being guilty of a breach of natural obligations, professional promises, and official duties, which would dishonour his character and disgrace the profession. We shall never be discouraged in the paths of duty by the calumnies of enemies, nor the ill successes of former writers, who may have attempted the theme, and have disgraced their works with mere hypotheses, commentations, novitiate learning, or pernicious errors in principle and in practice; we shall proceed, on the foundation of experience and observations that are confirmed by the testimonies and evidences of the greatest adepts of the science and art of Medicine and Chirurgery, to illustrate the doctrines and deliver rules for the practice of these most useful of arts.

The nature of the diseases, of which we now intend to give the history, has lain in obscurity and darkness, since the beginning of the world, and to say, that we design, in the following relation of facts on record, to unfold the mystery, would be deemed a mere presumption; but we are not concerned what the invidious will imagine and presume, in repugning our laudable endeavours, we have determined to disclose the secret for the good of man. Those pestilences of which we speak, are the most common and deadly of all diseases, incident to all living animals in the wide dominions of nature. They infest the inhabitants of the world at times, certain seasons, and different periods; molest the inhabitants of countries, regions, districts, places, cities, and villages, and originate in all climates of the earth, especially of the torrid and temperate zones. They sometimes seize whole nations universally at the same time, season, and period; sometimes attack a nation or a people partially, and progressively affect them all in their remotest habitations; and at other times, they prevail among the inhabitants of particular provinces and

cities, according to the facts recorded in the annals of Medicine. Hence physicians have been led to call them *Pandemic*, *Epidemic*, *Endemic*, and *Sporadic* pestilences or diseases, from the universal, the general, the particular, and casual prevalence or occurrence of such pestilences among the people of nations, kingdoms, provinces, and cities.

It is a notorious fact, well established and believed among us all, that every country, every region, every situation, and every climate of the earth has its own particular diseases, peculiar to them, according to the nature and virulence of the existing causes. The modifications of one and the same diseases appear differently combined in the morbid symptoms, assume different complexions, and exhibit various gradations of violence and mortality in different climates. The climate and soil of Bengal produce bilious intermittent, remittent, inflammatory, dysenteric, and pustular modifications of pestilences or febrile diseases; the climate and soil of Egypt generate pestilences attended with biles, carbuncles, pustules, ulcers, blindness, madness, &c. in a most terrible manner; apoplexies, epilepsies, emerods, fluxes, scabs, leprosies, convulsions, spasms, palsies, &c. also prevail in the low situations and places in Egypt. The variable and inclement seasons of the year, the great and sudden changes of the weather, temulence and gluttony produce inflammations, consumptions, dysenteries, common fluxes, yellow malignant fevers, sore-throats, croups, whooping coughs, small pox, measles, cutaneous diseases, convulsions, palsies, falling sickness, apoplexies, hysterical and hypochondriacal affections in the United States of America, carrying away thousands and tens of thousands of their inhabitants; the same causes create slow nervous fevers in the British Isles; which natural occurrences and contingences manifest the differences and peculiarities of climates and regions in the various

places and local habitations of men in producing diseases, that solely proceed from the various powers and natures of their efficient causes.

But it has unfortunately happened, that physicians, in all ages and nations, have departed from the natural truths and evidences suggested to them, in the continual course of events, and the perpetual series of causes and effects, by the grand evolutions of Providence ; have erred in their investigations into the natures, causes, origins, and cures of those pestilences ; have searched for causes beyond the influences of things in this natural world ; have imagined, that the impulse of infernal and celestial beings influence the constitutions of men ; have irrationally supposed the existence of some specific contagions, or noxious beings, or poisonous venoms, prevalent in the air, as the invariable causes of all epidemic diseases : and have vainly asserted, that such contagions and poisons are imported from one country into another, in ships, goods and bodies of men, at any given distances, producing diseases in them, independent of all those causes, which continually operate to produce the same in all places, where they happen to rage. They overlooked all the inclemencies and vicissitudes of weather, the annual and occasional constitutions of the seasons, the peculiarities of the atmosphere, the constitutions and habits of men, and the singular commotions of the elements at different periods and seasons, as the great powers operating continually in the production of all febrile or pestilential diseases of a pandemic, epidemic, endemic and sporadic nature ; they forgot, that Nature never changes her course, nor Providence her laws ; they remembered nothing of Heaven's immutable decree, that the great Author of our beings will never add to the sorrows of his creatures, nor deviate from the course of his procedure. All the studies and researches of men, during the myriads of former ages, have not been sufficient to unfold the se-

crets of nature, that are within the reach of human scrutiny, respecting these pestilences. For it has been the opinions of renowned physicians in all preceding ages, that general and popular, universal and partial distempers were the immediate offspring of peculiar contagions or specific morbid poisons, which were communicated through the medium of the atmosphere, noxious vapours, or effluvia, to the inhabitants of distant regions of the earth, or were propagated from person to person by contact and contiguous habitation. So the plague of London in 1665 was considered to be derived from the pestilential countries of the East, and was not supposed to have originated in the place by the surrounding causes; as many practitioners of Medicine in America attribute the causes of yellow fever in the country to an imported foreign contagion, which sows the seeds of epidemic disease and excites the latent poison into action, acquiring strength as it proceeds in its course. The advocates of this imported contagion or poison cannot give us any solid proofs and facts to substantiate their assertions, can only adduce the numerous authorities of men, whose visions led them to hold suppositions for real natural certainties, and have implicitly believed those false opinions, which their inventors had promulgated. Such errors of opinion, once admitted, may be imbibed and inherited by posterity for many ages, being always taken for granted by every succeeding generation, until some bold observers discover the errors and endeavour to revolutionize the systems of doctrines and opinions, which have thus engrossed the attentions of credulous imitators and followers of such authors. In this manner we can account for the prevalence and continuance of false opinions in Medicine and Chirurgery for upwards of two thousand years; in having hosts of contagious diseases mentioned in the writings of an-

cient and modern physicians, which, in reality, manifest no certain signs of their contagious nature, nay, have rather exhibited indications in their rise, progress and termination of their noncontagiousness.

Indeed, the pestilence or plague of Egypt, which annually prevail on the low and humid banks of the Nile, arises from the same causes that produce the bilious fever of Java and yellow fever of America. The same causes operate in their different degrees of violence and combination to excite the virulent fever of Siam, that generate the pestilential fevers of any other climate of the earth; in short, all general distempers, whether fevers or eruptions of a pestilential and malignant nature, proceed from similar causes, and these causes all exist in the different states and vicissitudes of the weather, the constitutions of the seasons, the peculiar circumstances of local situations, the modes of living, the habits, the constitutions, and the occupations of the subjects of those diseases. These sentiments, too, are sanctioned and confirmed by the testimonies of the wise and judicious historians and physicians in all former ages of the world, especially the great physician Hippocrates, the immortal historian Moses, the accurate Thucydides, Livius, &c. who have delivered to us the histories of past ages, with the pestilences and miseries of men. Hippocrates of Cos, the most famous of all the physicians of Greece and antiquity, elegantly describes the common vicissitudes of the weather, the different seasons and times of the year, the conversions of the stars, the circumscriptions of the seasons into three states, as the most frequent and natural causes of all popular diseases, (see his books on Epidemic Distempers,) and mentions a fourth state of the atmosphere, indicating an extraordinary season of dismal pestilence and mortality. He declares, that a year or season marked with abundant showers, southerly state of the at-

mosphere, and destitute of other winds, following drought, with winds and heavy rains ; an obscure and cloudy, hot and sultry autumn, with abundance of rain ; a humid, open, light, and warm winter ; extreme colds after the conversion of the sun, with a long interval about the equinox, and under the equinox itself, north winds blowing with snow ; a hot and rainy spring, vacant of cool breezes, continuing to the rising of Arcturus ; serene and hot weather ; great burning heat in the summer ; the anniversary winds little and disjunctly blowing ; and during Arcturus, again the north winds blowing, with much rain ; and sudden and great changes of weather, was considered a pestilential period. For, in the summer season, all kinds of biles, pustules, carbuncles, scabs, burning and ardent fevers, blights of the brain, worms, &c. ; and in autumn, most pestilential diseases, as the plague, agues, inflammations, ulcers, consumptions, &c. prevailed. Indeed, we have no occasion for delaying to confute the absurd notions entertained respecting the natural causes of diseases, as the histories of these pestilences, including the causes of every epidemic in nature, will finally explode them, *ad perpetuum*, by the facts adduced to evince their natural and terrestrial origin, general rage, particular mortality and occurrence in different climates, regions, and situations of the various countries of the earth.

Moses, the sacred historian, was the first person, on record, who gave this name in writing to these pestilences, calling them, *Kadachat*, *ardent fevers*, Lev. xxvi. 16. *Burning Fevers*, Deut. xxviii. 22. from the verb *Kadach*, to burn, to set on fire, to inflame, to increase heat, because they believed that those diseases excited the animal heat and inflamed the whole body, and that they consisted in this excessive heat and burning fermentation of the blood. This species of burning disease was commonly attended

with *Shachat*, *Burning Biles*, *Carbuncles*, painful and inflamed tumours and sores, Exod. ix. 9, 10, 11. Deut. xxviii. 27, 35. Painful ulcers, inflammations, apostumes, gangrenous or deep corrupting sores. He also called that fever *deber*, a *pest*, *pestilence*, a *perdition*, a *thing destroying*, as if the effect of God's decree, Ex. ix. 3. Levi xxvi. 25. Numb. xiv. 12. xxv. 37. xvi. 46—50. 2 Sam. xxiv. 13, 15. 1 Kings viii. 37. Psal. lxxviii. 50. xci. 3, 6. Jer. xiv. 12. Ez. v. 12. Amos iv. 10. Hab. iii. 5. Math. xxiv. 7. Isai xxxvii. 36. (See History of Medicine.) And to distinguish the various imagined differences of the complexions of these febrile diseases at different seasons of the year, in different cases of them, in different climates, and in the different constitutions and habits of men, physicians, from the times of Hippocrates, have added to the indefinite term, *fever*, the several epithets of intermittent, remittent, continued, pestilential, bilious, ardent, yellow, malignant, putrid, nervous, typhus, spotted, inflammatory, scarlet, morbillous, pustular, &c. which, they thought, designated the epidemic distempers, and characterized them in all their multiplied symptoms and modifications, merely by the presence of intermissions, remissions, continuance, contagion, fatality, &c. that all tend to perplex learners with useless distinctions and equivocal appellations, and have the worst influence on the progress of their knowledge in the arts of Medicine and Chirurgery.

These names were given to popular diseases in all succeeding ages; for, what the Hebrews called *heat*, the Greeks called *fire*, and what the former designated pestilence, the latter called *Loimos*, *lues*, *pestilence*, *contagion*, *Nosos Theu*, the *disease of God*; what the ancient Hebrews named perdition, the Greeks called mortality and destruction; so the Latins and all other nations adopted words of the same import in their own languages, to express these

same diseases, which received different epithets occasionally from their different degrees of violence, mortality and prevalence. They were called *epidemic* diseases, because they were popular, vulgar, or general among the people ; *pestilential* diseases, because they supposed them to be contagious and infectious in their nature and prevalence ; the disease of God, because they imagined, that it was sent by God to punish mortals. So the pestilence of America has received the epithets ; *malignant*, on account of its destructive tendency ; *yellow*, from the mere circumstance of yellowness of the body or jaundice, appearing in the course of the disease, or after death ; *bilious*, from the redundancy of bile being sometimes present and ejected from the stomach and intestines, and discharged by stools ; *remittent bilious*, because remissions of the symptoms often happened in the disease, alternating with violent accessions of ardent fever. Sauvages has called it *jaundiced typhus* ; Cullen denominates it *fever with yellowness* ; Vogel names it *golden coloured fever* ; the English call it *bilious remittent fever* ; the French call it *Maladie de Siam*, or *Fievre des Malettoles* ; the Spaniards call it *Vomito Prieto*, or *black vomit* ; the Americans have adopted the appellation of Warren, calling it *yellow malignant fever* ; which all manifest an ignorance of the real nature, causes, and cure of this terrible malady, as well as demonstrate, that no appropriate name has ever been given to the disease, to designate its real character, even to this day. And many recent physicians of a novel disposition, have imagined this disease to be a new fever that has lately been introduced into the country ; others suppose, that it has lately originated in these states ; but to explode these false notions, without the trouble of a confutation, we shall adduce those testimonies and evidences which will prove the existence and prevalence of it from times immemorial.

So we learn from the records of antiquity, that all febrile diseases, including all kinds of pestilences, have been known among men in all other countries, under the various appellations of pestilence, plague, ardent and burning fevers, as we have already seen, by the passages of Scripture which we have quoted, even from the beginning of the Jewish nation, and that the same tremendous pestilences have raged in different periods of time, and in the same particular seasons of the year, from the earliest ages of the world. From the first settlement of the Israelites in unhealthy Egypt to the present day, we have accounts of innumerable plagues, pestilences, fevers, febrile eruptions, inflammations, fluxes, leprosies, scabs, &c. that overspread the inhabited parts of the globe and destroyed millions of the human species. And if we inspect the ancient histories of nations and countries, as well as the modern annals of Medicine, we shall find that the same kinds of diseases existed in the beginning, arose from the same causes, occurred in the same seasons of the year, happen in particular situations, originated in certain states of the weather, and were marked by the same circumstances ; if we review the pages of history, we shall observe them to seize persons of the same ages, sexes, conditions, constitutions and occupations ; and we thence learn, that all these diseases have continued through all periods of time down to the present age. And we cannot conjecture why Physicians have imagined the existence of any new diseases in these latter times, on any other account, than because they have not been able to trace them under the same names which they have adopted, nor defined by the same characteristic symptoms, which they expected to find in ancient books on Medicine. But this is a preposterous supposition, the mere effect of ignorance and temerity, a vain assertion, an empty delusion : can any natural causes rise into being, or have any been created

in these last times, to generate new distempers and augment the calamities of mortals? Or can the God of nature alter the common course of his providence? The Author of our beings has never thought of increasing our miseries by adding new afflictions; we may destroy ourselves, but the operations of Providence are the same for ever. The reasons why no traces of these diseases supposed to be new can be distinctly found in the Medical books of the ancients, are the changes of their names and false translations of the original languages. Our modern reasoners forget that none of the ancients attempted to distinguish them from each other by marks, which have no difference, nor any pathognomonic signs, that would have led them to define their various characters; they are ignorant that the ancients considered all febrile diseases to bear such affinities to each other, to arise from the same identical causes, to consist of the same characteristic symptoms; and were consequently induced wisely to include all pestilential distempers in one general name, pestilence, plague, or fever, which comprehends all the epidemic diseases of modern times. The wisdom of the ancients in this particular appears conspicuously great, when we consider the uselessness of all nosological distinctions and classifications of these diseases made since the days of Hippocrates; we will admire their judgments more, when we contemplate the errors and confusion produced by such imagined differences; for we now hear of pestilence, called plague in Egypt, yellow fever in America, bilious, inter and remittent fever in the Indies, typhus or nervous fever in Britain; we read of the same epidemic diseases, which the ancients called red pimples, pustular apostemes, corrupting and gangrenous sores and ulcers, now called the distinct and confluent smallpox, carbuncles, &c. whereas the diseases are identically the same, having the same symptoms, are produced by the

same causes, are attended with the same circumstances, require the same methods of cure in all regions of the earth where they happen to prevail, and have only obtained various names in the different languages of men, according to the idioms of those tongues, or in relation to their supposed natures, in all places under the canopy of heaven.

And to prove that the wise ancients considered all general and universal distempers as the natural offspring of the different vicissitudes, inclemencies and peculiarities of the seasons and the atmosphere, and that they had no suppositions of their arising from any specific contagions, noxious poisons, or infectious effluvia, emanating from the bodies of other men, independent of the causes existing in the constitution of these seasons and surrounding elements, we have only to adduce some facts and testimonies on record from the annals of Medical History, as they are delivered to us by the various and famous historians of antiquity, who were as accurate observers of nature and nature's law as the moderns can pretend to be, with all their boasted perfection in the arts and sciences.

In the 2509 year of the world, during the reign of Pharaoh IV. King of Egypt, in the 80th year of the life of Moses, the great Captain of the hosts of Israel, in the beginning of the month Adar, a pestilential period or season commenced, and produced many awful prodigies in the natural world, especially in the commotions of the elements, that were destructive to the lives of men and beasts in all the low and humid regions of Egypt. This season began with a long drought in the first summer, which comprehends our March, April, and May, attended with great and cold nocturnal dews, alternated with rains, after a humid winter. The weather was very changeable; the excessive heats and hot winds melted the inhabitants by day, and the cold

damp dews chilled them by night; the atmosphere was so filled with fiery elements and clouds of dust or sand, that men and cattle were in imminent danger of suffocation, and were compelled to seek shelter from such dry storms and tempests. If we look into the topography of that land, we will find that all the lower country of Egypt is encompassed by the arms of the Nile, and is inundated annually by the waters of that *father of rivers*. This overflowing of the river rises twenty-four feet perpendicular height, at the medium increase of four inches a day, and always continues from the end of June till the beginning of September, when it begins gradually to subside. They sow their spring corn and vegetables in October and November, on the falling of the waters, and their harvest is in March and April, which answer to the Hebrew months Adar, Abib and Jair. The whole country lies near the tropic of Cancer, being situate within 20° and 32° of north latitude, and 28° and 36° of east longitude; is bounded on the east by the Red Sea, on the west by the desarts of Lybia, on the north by the Mediterranean, and on the south by Abyssinia or Upper Ethiopia, and must be very insalubrious in summer and autumn. The inhabitants are continually molested with swarms of insects and unclean animals. Lizards, frogs, crocodiles, hornets, scorpions, bugs, lice, flies, worms, locusts, vipers, musquitoes and bees, vex them during the summer months in a most distressing manner; and the very causes which generate and preserve all those noxious insects and reptiles, are the great causes of the sickness of men, as great heat and drought, and moisture and heat, in combination with other causes, which we shall immediately mention.

In that calamitous period, which happened in the days of Moses, the season was distinguished by an extraordinary phenomenon of the waters being turned into the colour of

blood, with some remarkable insects or materials, which killed all their fishes, and caused their waters to stink in all the low lands of Egypt, so that they could not drink the waters of their rivers, their streamlets, their ponds and their pools, for seven days. This peculiar condition of the waters, and the heat of the atmosphere, engendered swarms of frogs, which came into their houses, their bedchambers, their beds, entered their ovens, and went even into their dough, over all the land. Some tremendous commotions of the elements, or great and sudden changes of weather, killed those frogs in their houses, villages and fields; and the people gathered their carcasses into heaps, and the whole land stank with putrid frogs. Lice also began to increase on their own bodies and on domestic animals, to the great molestation of their happiness. Swarms of noisome beasts, or insects, or flies, succeeded the general putrefaction of dead frogs, and infested the whole land. And, as the excesses of the season and weather continued and increased, a mortal pestilence among the domestic animals, the cattle, the horses, the asses, the camels, the oxen, the sheep, and all other minor beasts, and almost all these animals died off the face of the earth. This was a gloomy presage of an awful pestilence among men, immediately to follow the fate of those beasts, according to the common course of nature. Indeed they had not yet got over the loss of their cattle, when fiery and papular biles, pustules, apostemes, or putrid ulcers, infested them and all their animals, *Exod. ix. 9; Deut. xxviii. 27, 31; Job ii. 7; Rev. xiii. 2*; throughout all the land of Egypt. This was the disease which the moderns of the European nations have called Smallpox, was always known by the peculiarly fiery pustules breaking forth on the surface of the body, vehement fever, pains and other symptoms of a febrile inflammatory disorder. Then a dreadful storm of hail took place, and destroyed the re-

sidue of men, beasts, herbs, fruit trees, &c. in the field, throughout all the land. In this tremendous tempest, fire, mingled with the hail, ran along the ground, so very grievous and dismal in its appearance and effects, that Pharaoh and all his people trembled as if the pillars of nature had been shaken from their foundation and the world about to be dissolved. And to add to their calamities, hosts of locusts, *Exod. x. 4*, were brought by the east wind over all the land of Egypt; they rested on all the coasts and borders of the land, covered the face of the whole earth, so that the ground was darkened, and they devoured all the residue of the herbs, fruit trees, even all that the hail had left; not one green thing remained in all the land of Egypt. Then a strong west wind began to blow, and cast all the locusts into the Red Sea and drowned them in the waters: their carcasses being washed on shore stank intolerably, and became a great auxiliary cause of the pestilence among men.

Meantime three days of an astonishing darkness overspread all the land of Egypt, and the inhabitants could not see each other, neither did any rise from their seats; and the pestilence began to infect men in the violence of compound inflammations. This terrible distemper first seized all the young, strong and robust persons of the land, all the prime of their strength, all the first-born of man and beast, from the first-born of the king to the first-born of the slave and prisoner in the dungeon; yea, there was not a house in which there was not some dead of man or beast: so tremendous was the stroke, that the sacred historian calls it the immediate judgment of God to punish their wickedness. And behold it happened in the dead of the night, that the Lord smote all the first-born in the land of Egypt, said the eloquent and devout narrator, from the first-born of Pharaoh, that sat upon the throne, to the first-

born of the maid servant that stands behind the mill, and even the firstlings of beasts ; and there was a great cry throughout all the land of Egypt, such as was never heard of in any former age, nor shall there be any like in any future period ! And so dreadful was the calamity and destruction, that the Egyptians cried, “ We are all dead men ! ” And being under the impression that God had inflicted that judgment upon them for their oppression of Israel, they urged the Israelites to depart from the kingdom, even from all their possessions in the salubrious land of Goshen, which is situate in the north-east corner of Egypt. Yes, they drove them out of their famous cities of Pithom and Rameses, which they had built to Pharaoh for treasure-cities, or cities of defence.

This terrible pestilence among men and beasts in the land of Egypt, lying within the branches of the Nile, began to rage epidemically in the month of Adar, and prevailed through Abib and Jair, even to the beginning of winter, when the cold weather put an end to their calamities. On the 18th day of Adar, which was the summer in Egypt, all the waters were turned into blood for seven days ; about the 25th day the rivers produced the swarms of frogs ; about the 27th day swarms of lice began to molest them ; and on the 29th day millions of flies appeared to torment them. On the 2d day of Abib a grievous murrain, or pestilence, happened among the domestic animals ; on the 3d and 4th biles broke out upon them ; on the 5th day a dreadful hail storm happened, with thunder and lightning running along the ground and piercing the air ; on the 8th day a destroying army of locusts and grasshoppers covered the whole land ; on the 10th universal darkness took place and continued three days ; and on the 14th the deadly pestilence began to prevail, and swept millions of them from the face of nature in one sudden and universal destruction.

And can we hesitate to attribute all the causes of those terrible diseases to the pestilential constitution of that season? Can we suppose any other natural causes, excepting long drought, excessive heats, hot burning winds, clouds of suffocating sands, great rains succeeding the drought, tempests and storms of hail mingled with fire, famine in consequence of the destruction produced by the locusts and devouring insects, the noxious stench and vapours, or effluvia, of dead frogs, which had been destroyed by the dismal commotions of the elements, the effluvia of dead carcasses of other animals, as flies, birds, fishes, and other vermin killed by the hail, &c. and the intolerable fetor arising from the putrid locusts on the shores of the Mediterranean Sea? Can we imagine any other causes in existence to produce such awful pestilences, than these accompanied and combined with the sudden and great changes of the weather, inundations of the rivers, the universal corruption of all dead animal and vegetable substances putrefying on the banks of the rivers, in all the hollows of the fields, and all the pools of water throughout the dominions of Egypt? No; the noxious vapours and exhalations floating in the air, the burning winds, the clouds of hot sand, the melting heats by day and the damp cold dews by night, the rains and the commotions of the elements, all united to produce those destroying plagues, the most terrible ever heard of in any age or nation since the creation of the world; *Exod. ii. 22—34*, and the Psalmist of Israel, in his pious contemplations of the divine greatness and goodness of Jehovah displayed in the kingdom of nature, adores him in the admirable chain of natural causes and effects, formed and preserved by him in this lower world: “Whatsoever the Lord pleased he does, in heaven and in earth, in the seas and all deep places. He causeth the vapours to ascend from the ends of the earth; he maketh the light-

nings for the rains ; he bringeth the wind out of his treasures. He smote the first-born of Egypt from man to beast ; he covereth the heaven with clouds ; he prepareth the rain for the earth ; he maketh the grass to grow upon the mountains ; he giveth all beasts their food in due season ; he causeth the fire and hail, snow and vapours, storms and tempests, winds and calms, to fulfil all his will on the earth, &c. Psal. cxxxv. 6—9. cxlvii. ; and Job, in a profusion of eloquence, enumerates the wondrous works of God, manifested in his government of the seasons, the spring, the summer, the autumn, and the winter, with all the commotions of the elements, chap. xxxvii. xxxviii. and Jeremiah iv. 11—13, in describing the approach of the armies of Babylon, compares them to the drying, parching, scorching and blasting winds of Egypt, Africa, Ethiopia, Arabia and Asia, which wither and destroy the fruits of the earth, and melt and oppress all living creatures ; and likens them to clouds of dust and whirlwinds, that traverse those pestiferous countries of the east, where the heat and drought, the dews and damps, the tremendous rains, the cold north winds of winter and spring, and the suffocating heat, of summer and autumn ; or the dry and hot, damp and wet, and the chilling and cold seasons of the year, generate pestilential fevers, inflammations and all cutaneous diseases.

The sacred historian, indeed, has informed us, that all the waters of the Nile, all lakes, pools and reservoirs of water, were turned into the colour of blood in those days of calamities ; that heaps of dead frogs infected the whole land with putrid effluvia ; that a burning drought long prevailed ; that drowning floods of rain succeeded it, attended with tempestuous storms of thunder, and lightning, and hail ; and that dearth, from the devastations of locusts, caterpillars, canker and palmer worms, existed to spread

death and destruction among men and beasts. He relates, that the overwhelming inundations, the horrible tempests, the burning drought, the dismal commotions of the elements, the production of noxious insects, the prevalence of famine, the appearance of hideous animals, the existence of putrid exhalations and vapours, distinguished that pestilential period or season, from the beginning of Adar to the end of Abib, and preceded the murrain, or pestilence of the domestic animals ; he also mentions in this narration of facts, that pestilence among men succeeded the same disease among the beasts, according to the manner in which it has prevailed in all posterior ages, as we find recorded in the annals of the world ; he has declared, that all the first-born of men and firstlings of beasts perished in that awful season ; and can we labour under any doubts respecting the causes of that grievous pestilence ? can we have any doubts concerning its real nature, when we have learned from the relation of this credible historian, that all the young, the strong and robust, the fat and well fed Egyptians, who rolled in riches, wallowed in luxuries, and lived on the low and putrid banks of the Nile, became a prey to this destroying pestilence ; while the temperate and moderate Hebrews, who lived on milk and vegetables, roots and herbs of the field, and were even pinched for provisions, inhabiting the high and dry land of Goshen, entirely escaped, enjoying perfect health in all their borders on the north-east corner of Egypt ?

If we consider the natural order in which all those pestilences or plagues took place, we shall be convinced of their common and natural causes, existing in the extraordinary conditions of the atmosphere and constitution of the seasons. First, awful commotions of the elements, and excesses in the weather, happened to produce a train of events in the natural world ; the rivers turned into blood ;

the swarms of frogs ; the prevalence of lice ; the production of flies and hornets ; the storms of hail ; the devastations of locusts, and the gross darkness, &c. Then pestilence began to rage among beasts, and pustules, or smallpox, appeared on men and beasts, Exod. ix. 3, 9, 10, which are represented as hot burning biles breaking forth into pustules and corroding sores, produced by the burning heats, sands and winds, and signified by the hot blistering ashes of the furnace ; and at last all diseases were swallowed up by the terrible epidemic pestilence which immediately succeeded. Is not this the way in which the plague of Egypt and yellow fever of America prevails even in the present day ? Do they not attack all the young, strong and robust inhabitants, especially the blooming emigrants, who are full of blood, unaccustomed to hot climates, as Britons, Germans, Swiss, Danes, &c. and particularly infesting the luxurious and temulent among them ?

The pestilence of Egypt, so tremendous in the days of old, like the plague of modern times, usually began with chilliness and rigours, followed with a burning heat ; violent pains in the head ; distressing inclination to vomit, and a vomiting of bilious or pituitous matter ; intense pain about the heart, stomach, reins, liver, bowels, or back and limbs ; burning biles and gangrenous carbuncles. Sometimes it began with delirium, bilious vomiting, ardent fever, glandular swellings, purple spots on the body, proceeded to its height in three or five days, and terminated in sudden death. Other times it suddenly seized persons in the streets, at their employment, or even in their beds, without any previous warning of its approach, and destroyed them in the first invasion. But the most common modification of this pestilence consisted in ardent fever from the beginning ; apostemes or burning biles, likened to hot coals for their intense burning and painfulness on the third, fourth,

or fifth day of the disease, and certain death about the tenth or fourteenth day. In this disease various other morbid phenomena appeared to predominate in many persons; as blindness, madness, drowsiness, bleedings, colliquative flux, buboes, livid spots, intolerable fetor of the breath, and black vomiting, &c. And this was the pestilence of Egypt, one of the dreadful diseases of men and beasts which God threatened to bring upon the Israelites in case of disobedience and idolatry, when he pronounced this awful commination, If ye shall repugn my statutes and abhor my judgments, I will appoint upon you terror, consumption and burning ague, that will consume the eyes and cause sorrow of heart: I will send pestilence among you; I will smite thee with consumption and with ardent fever, and with inflammation, and with extreme burning, and with drought, and with blasting, and with mildew, and with the botch, and with the emerods, and with the scab, and with the itch, and with madness and blindness, horror and terror, stupor and astonishment of heart, vexation and execration, whereof ye cannot be healed; and these shall pursue you until ye perish from off the face of the earth, Lev. xxvi. Deut. xxviii. Exod. v. Num. xiv. The armies of Israel, who were journeying in the wilderness, exposed to long drought and a burning sun, to hot winds and inclement weather, subjected to famine and fatigue, were consumed by this pestilence, on obtaining a superabundance of flesh and a fulness of bread, Num. xi. 33. By the same pestilence the murmurers and mutineers in the company of Korah, Dathan and Abiram were destroyed, even to the number of 14,700 persons, Num. xvi. in the encampments at Kadesh, in the desert of Paran; by it the riotous and drunken worshippers of Baal-peor, even 24,000 men and women, perished, Num. xxv.; by it 70,000 of David's subjects were cut off in the space of three days, 2 Sam. xxiv.

desolating the country even from Dan to Beersheba ; by it 185,000 of the Assyrian army, in their camp, at the siege of Jerusalem, under the personal command of Sennacherib their king, were swept away Isa. xxxvii. by it, and hornets and other diseases great multitudes of the Canaanites were carried off previous to the conquest of their country by the Hebrew adventurers, from the land of Egypt, Hab. iii. ; and by pestilence and famine a third part of the inhabitants of Jerusalem died, Ezek. v. 6. Matt. xxiv. And can any man in his senses deny the existence of natural causes in those countries, and in those seasons of the year, and in those calamitous times to produce all those pestilences ? can we hesitate to say, that famine and repletion, fatigue and heat, confined and noxious air, inclemencies of the seasons, sudden and great changes of the weather, either from heat to cold, or dryness to moisture, temulence and gluttony, rioting and debauchery, exposures to the heat of the sun and damp cold dews, lying on the cold damp ground, &c. produced those pestilences, which destroyed so many thousands of the ancient inhabitants of the world ? Their armies, in campaigns, on expeditions, in sieges, in cities and in the fields, commonly perished in great multitudes ; and being subjected to excessive labours and hard marches in pursuing and fleeing their enemies ; exposed to heavy rains, hot and cold winds, storms and tempests, all commotions and inclemencies of the elements ; confined to insalubrious places, crowded cities, low marshy situations, dry sandy places, and continually agitated with fears and passions, oppressed with long watching, famine, and fatigue in fighting equal enemies, during hot summers or cold winters, sickness and death generally prevailed among them. In such times of warfare the armies frequently reduced to the greatest extremities of hunger and thirst ; being famished by want of provisions ; exhausted by

great fatigue and watching ; deprived of pure air, wholesome victuals, rest, good dry beds ; encompassed with bad air of the living and dead bodies of their enemies and companions ; injured by the filth of their own persons ; confined in cities, crowded together in houses, &c. where all the miseries of human nature and calamities of war seemed to be accumulated in the extreme, have been, in all ages, infested with pestilential disorders, as fevers, dysenteries, inflammations, catarrhs, consumptions, scabs, carbuncles, biles, pustules, &c. In the sieges of Jerusalem we have awful instances of this kind of destruction, by famine, fatigue and pestilence, and we have a striking instance of the diseases attending a victorious army in the campaign of the Philistines against Israel, when, in the time of the wheat harvest, they were smitten with an epidemic pestilence, attended with dysentery, or the emerods, in the posterior parts, that destroyed the inhabitants of Ashdod, Gath, Gaza, Askelon and Ekron, their principal cities, and carried off fifty thousand and seventy persons of the inhabitants of Bethshemesh, 1 Sam. v. 6, 12. vi. 4. and Psal. lxxviii. 66. also, Deut. xxviii. 27. And all the diseases mentioned in the sacred books, which were considered national judgments inflicted on men by Him, who regulates the seasons, governs universal nature, determines all events, and reigns among the armies of heaven and over the inhabitants of this earth, are represented as proceeding from natural causes, that existed in the kingdom of Nature ; whether burning agues, which included all acute diseases ; or consumption, which comprehended all chronic distempers ; or biles, botches, scabs, leprosy, itch, carbuncles, ulcers, or pustules, which comprehended all diseases of the skin ; and pestilences, which designated all epidemic and mortal disorders, all proceeding from surrounding causes in this natural world.

In this manner it hath pleased the Author of Nature to afflict men with famine, partly occasioned by drought, excessive rains, blasting and mildew, ravages of vermin, whereby the grains and fruits of the earth are destroyed in extensive territories, empires, kingdoms and provinces, and partly produced by the ravages and devastations of armies and their besieging cities. A great famine happened in Canaan in the days of Abraham, and another occurred in the days of Isaac, Gen. xii. 10. xxvi. 1.; another in the times of Boaz, Ruth i. 1.; another, of three year's continuance, in the days of David, 2 Sam. xxi.; another of three or four years, induced by a long drought, in the reign of Ahab, 1 Kings xvii. xviii.; another, of seven years, in the reign of his son Jehoram, 2 Kings viii. 1.; another, caused by vermin, or insects, in the days of Joel, chap. i. 2.; another in the times of Jeremiah, chap. xiv.; and in the days of Haggai and Nehemiah, Haggai i. 7, 11. Neh. v. 3. And even in Egypt, where the crops were most abundant and certain, seven years of famine happened in the days of Jacob and Joseph, Gen. xli. 27.: when Benhadad and Shalmaneser besieged Samaria, and when the Chaldeans and Romans besieged Jerusalem, the famine was so terrible, that even mothers devoured their sucking children, Deut. xxviii. 57. 2 Kings vi. 24, 29. xxv. 3. Other famines happened before the siege and destruction of Jerusalem, as predicted by Jesus and Agabus, and extended over all the Roman empire, Matt. xxiv. 7. Acts xi. 27—30.; others occurred in 4190 and 4280 A. M. and distressed all the empire of Rome, Rev. vi. 6—8. Droughts in summer are very common in Palestine, the Indies, and Egypt, and other eastern countries. Five years of drought occurred about Damascus in the 5200 year of the world; a drought of 17 and another of 36 years' continuance, took place in the isle of Cyprus, and all became the fruitful

sources of famine, pestilence and destruction. And the causes of all those famines were long droughts, which engendered palmer-worms, locusts, canker-worms and caterpillars, to devour all the fruits and every green thing on the earth ; the devastations of armies, the destruction of tempests and storms, rains and inundations, &c. as their natural effects in this material world. And these famines too, were the great predisposing causes of febrile diseases, and always mentioned in the books of God, as connected with pestilence, sword and desolation, in regular succession, and in consequence of other existing causes, Jer. xiv. Ez. v. 12, 16, 17. Amos iv. 6—10. Jer. xxi. 6. ; so the long droughts of summer, alternated or succeeded by excessive rains, or cold north winds, are the most productive causes of pestilences among men and beasts. And we must conclude, that these testimonies of sacred antiquity leave no room for doubt or disputation on the origin, causes and prevalence, of pestilences or epidemic diseases ; are decisive on this question, and are authentic records, which are sufficient to convince modern reasoners in Medicine, and to evince the natural and domestic origin, prevalence and existence, of all epidemic distempers.

The prophet Amos also relates the great causes of pestilence, producing their effects in regular succession, chap. iv. 8. i. ; a great drought first happened ; 2d. the palmer and canker worms ate up all the herbage and green foliage of their numerous vineyards, orchards, oliveyards ; and all grass, herbs, vegetables and green things were devoured by them ; 3d. a grievous famine immediately followed the destruction of all grains and herbs of the field, which composed the food of man and beast ; 4th. pestilence ensued immediately, in consequence of starvation, misery and anguish ; so long drought, blasting, mildew, and devastation of locusts, &c. produced dearths and famines, and the extreme

heats and droughts induced pestilence and death. Now this pestilence appears in different forms in different regions and situations of the earth, according to the nature of the climate and places of residence. Some modifications of it are peculiar to Egypt, prevailing greatly on the banks of the Nile; others are peculiar to Bengal; a third class of pestilence is peculiar to the hot burning countries of Siam and America. A dry sandy soil, also, modifies diseases in one form, and damp marshy places modify them in another. So the diseases in New-Orleans, Mobile, Natchez, Savannah, Charleston, Havanah, &c. differ from the diseases of Vermont and New-England, both in their violence and fatality. In hot, low, confined and sandy places, yellow fever rages, and carries off the inhabitants in one universal destruction. In low, damp, cold and swampy situations, burning agues, diseases of the liver and spleen, inflammations of the internal organs, fluxes, &c. greatly prevail; and during peculiarly constituted seasons, and particular kinds of weather, diseases peculiar to the seasons, or weather, always prevail; for hot and dry, cold and wet winters and summers, change the modifications of diseases; a hot and dry summer produces all manner of ardent, bilious and pestilential diseases; a cold, open and wet winter, causes violent inflammations of the eyes, throat, lungs, head, bowels, &c. and torturing rheumatisms.

We have often observed, that bilious fevers prevail among armies encamped on dry ground in hot countries, and in all countries in the autumnal season of the year; and that dysenteries, agues, obstructions of the entrails, &c. happen to them encamped in low marshy grounds. We have good examples of these two kinds of diseases in these two different situations—in the Arids of India and the Swamps of America. Indeed all species of ground and climate exist in America, the arid burning sands and noxious cold

swamps of every description ; and hence all the diseases of the world prevail among the inhabitants of America. To confirm these solemn truths we might review the poetical enumeration of the diseases of Egypt composed by David, King of Israel, Psal. lxxvii. as the consequence of great plenty and scarcity of human provisions, as the effects of extreme heat, drought, moisture, great fatigue, excessive seasons and weather, which the God of nature brought in the common course of his providence ; we might review all the records of antiquity, to see the unusual occurrences, commotions of the elements, inclemencies of the seasons, convulsions of nature, constitutions of the atmosphere in the various periods of time, and the prevalence of certain diseases in particular situations, producing ardent, bilious and deadly pestilences, carbuncles, apostumes, emerods, scabs, inflammations, blindness, madness, biles, consumptions, leprosies, eruptive fevers, &c. which could never be cured by the treatment employed, as we have observed in Deut. xxviii. 21, 22, 27, that were all produced by natural and common causes, the calamities of war, great and long heat and drought, rains and moisture, the stench of dead carcasses, noxious and putrid air, exposures to heat and cold, blasting, mildew and famine, &c. according to the mysterious dispensations of unerring Providence.

In the sacred records there is no evidence of one single disease, ep'demical, endemical or sporadical, being communicated by contagion, or conveyed from place to place, from country to country, or of being diffused through a whole nation from one spark of a specific virus, or poison, whether arising from the bodies of men, or from any other material thing in this lower world, excepting in cases of leprous scabs, lues, &c. that are mentioned in Deut. xiii. which delivers laws respecting the nature and cure of leprosy ; there are no evidences in profane history, previous to

the writings of Hippocrates, or even of the moderns in Medicine, of any pestilence, or ardent fevers, ever being contagious. Indeed the books of God, in tracing the hand of Heaven, through the medium of secondary causes, producing effects punitive of guilty mortals, as the enemies of God, attribute the causes of all diseases to the immediate interposition or dispensation of Divine Providence, in inflicting tremendous judgments on his enemies and protecting his own peculiar people as such; because God is the first Cause, the original Creator of all things, the Preserver and Governor of all things and beings in heaven and on earth, and the sole Disposer of the elements; and nothing in this world, either in mode or matter, nature or being, can exist, happen, act, rest, die or live, without the immediate hand, permission, or concurrence of Him, who rules the winds, the seas, the spirits and the minds of men, as well as regulates the seasons, directs all the various changes of weather, and forms the different constitutions of the air, with every gradation of temperature which can be conceived in nature; hence the religionists of old attributed all the causes of disease in this material world to the penal judgments of a vindictive God; but we, who only investigate the natural and common causes of all distempers of the bodies of men, have no occasion to impute the causes of bodily distempers to the original Creator of all causes and all effects, visible or invisible, in this world: no; we can equally honour the wisdom and goodness, the omnipotence and justice, the mercy and judgment, the knowledge and providence of God, in expounding all those causes of disease, as existing in the common and natural things and modifications of things and beings of the natural world, as we can display them, as immediately inflicted by him on guilty man; yea, more glorious do the attributes of the Most High appear, in the sublime mysteries of Nature and

Providence. We see, moreover, that humidity and dryness, the coldness and the hotness, the vicissitudes and conditions of the atmosphere, operate continually on the bodies of men: we observe, that their modes of living, their virtues or their vices, the peculiarities of their constitutions, or their conditions in different climates, at different periods, in different seasons of the year, predispose them to receive unfavourable impressions from the influences of surrounding causes. Profane history also affords us ample testimonies and evidences of their origin, nature, causes, progress, occurrence, prevalence, violence and truculence, in primitive ages of the world; it demonstrates the identity of ancient pestilence and modern plague, the resemblance of ancient and modern fevers, the similitude of burning biles and modern carbuncles, the same appearance of pustules and smallpox, and all tending to prove, that no material alteration in any disease, or causes of disease, or climates, has taken place since the beginning of the population of the world; and above all, it displays the perpetual and constant uniformity of Providence, in all the operations and works of nature. From the annals of the world we learn, that Egypt was the great nursery of pestilence, carbuncles, biles, pustules, leprosies, scabs, inflammations and emerods; this proves, beyond contradiction, that all diseases of a pestilential, a virulent, an epidemical or a contagious nature, were known and considered in this natural light ages before the foundation of Cairo, Smyrna, Aleppo, Rome, Constantinople, and other cities of Egypt, Arabia, Lybia, Syria, Judea, Grecia, Asia, &c. where these diseases or pestilences do most abound.

The poet Ovid, in the seventh book of his *Metamorphoses*, mentions a terrible pestilence that occurred in the island of Ægina, during the reign of Æacus, the grandfather of Achilles, 60 years previous to the Trojan war, about the

2694 year of the world, which nearly depopulated the whole island. He represents it as immediately arising from the causes we have already mentioned, in a most affecting manner. He exhibits the earth covered with dense clouds, darkness and suffocating heat; the deadly south winds blowing for four months vapours of disease; the lakes and fountains infected; the air poisoned; and the whole land infested with venomous serpents, as happened to the people of old. The plague first invaded horses, oxen, mules, sheep, dogs, cats, birds, &c. and then affected mankind: death was sudden, and the streets were choked with the dead carcasses of men and beasts, and universal nature seemed to decay. And to prove the identity of this pestilence with the plague of Egypt, the yellow fever of America, the bilious remittent of Siam, and typhus of Britain, modified by the peculiarities of climates, we have only to collect the symptoms of that disease from his poetical enumeration of them. The morbid phenomena of that plague were great heat in the bowels, flushings of the face, difficulty of breathing, bilious vomiting, pains in the head, &c.; obstinate constipation, great prostration of strength, unquenchable thirst, delirium or coma, convulsions, languor and anguish, dry black tongue, hiccups, madness, &c. and proceeded to a fatal termination in the course of three or four days, with the most distressing accumulation of human agonies; hence, the translator imitates the original in English rhyme.

A dreadful plague from angry Juno came,
To scourge the land that bore her rival's name;
Before her fatal anger was reveal'd
And teeming malice lay as yet conceal'd.
At first we only felt th' oppressive weight
Of gloomy clouds, then teeming with our fate,
And lab'ring to discharge the sultry heat:

But ere four moons alternate changes knew,
With deadly blasts the fatal south wind blew,
Infected all the air, and poison'd as it flew.
Our mountains, too, a dire infection yield,
For crowds of vipers creep along the field,
And, with polluted gore and baneful teams,
Taint all the lakes and venom all the streams.
The young disease with milder rage began,
Seized on birds and beasts, approaching man;
The lab'ring oxen fall before the plough;
The ploughmen wonder, stare, can't imagine how;
The tabid sheep with sickly bleatings pine,
Their wool decreasing as their strength decline;
The warlike steeds, by inward foes compell'd,
Neglect their honours and desert the field;
Enerv'd and languid, seek a base retreat
And at the mangers groan, but wish'd a nobler fate.
The stags forget their speed, the boars their rage,
Nor can the bears the stronger herds engage:
A common faintness now invades them all,
In woods and fields promiscuously they fall.
The air exhales the stench, and, strange to say,
The rav'nous birds and beasts avoid the prey;
The putrid bodies rot upon the ground,
And spread the dire contagion all around.
Meanwhile, the plague acquires a larger size,
It feasts on men, and scorns a meaner prize.
Intestine heats begin the civil war,
And flushings first the latent flame declare,
And fiery breath, which seem'd like burning air.
Their black dry tongues are swell'd, and scarcely move,
And short thick sighs from panting lungs evolve;
They gasp for air, with vainest hopes to sate
Their raging flames, but that augments their heat.
No bed, no covering, can the sicken'd bear—
All on the ground, expos'd to open air,
They lie, and hope to find a pleasing coolness there.

The burning earth, with hot oppression curst,
Returns the heat which they imparted first.
All remedies they try, all med'cines use,
Which nature could supply or art produce :
Invincible, it mocks the vain design,
And art and nature foil'd—declare the cause divine.
But vain Physicians would bestow their aid,
Vain all their art, and useless all their trade ;
And they, e'en they, who fleeting life recall,
Feel the same pangs, and undistinguished fall.
If one becomes so daring to attend
His sick companion, or his darling friend,
Th' officious man acquires contagious breath,
And willingly does sympathize in death.
And now the cares and hopes of life are least,
They please their fancies and indulge their taste ;
At brooks and streams, regardless of their shame,
Each sex, promiscuous, strives to quench their flame ;
Nor do they strive in vain to quench it there,
For thirst and life, at once, extinguished are.
Thus in the brooks, the dying bodies sink,
But, heedless, still the pale survivors drink.
Here one, with fainting steps, now slowly creeps
O'er heaps of dead, and aye augments the heaps :
Another, while his strength and tongue prevail'd,
Laments his friend, then falls, himself bewail'd ;
This, with imploring looks, surveys the skies,
Incumbent office of his closing eyes ;
But finds the heavens implacable, and dies.
The rest grown mad, and frantic with despair,
Urge their own fate, and so prevent the fear.
No decent honours to their urns are paid,
Nor could the graves receive th' unnumber'd dead ;
For thousands lay unburied on the ground,
And, unadorn'd, a needy funeral found.
All reverence past, the fainting wretches fight
For fun'ral piles which were another's right.

Unmourn'd they fall ; for who surviv'd to mourn ?
 And sires and mothers, unlamented burn :
 Parents and sons sustain an equal fate,
 And wand'ring ghosts their kindred shadows met ;
 The dead a larger space of ground require,
 Trees insufficiently can feed the fire.
 Death stalked around with such resistless sway,
 That temples of the gods at last obey,
 And altars stain'd with trophies of the dead, &c.

And these facts all unite to confirm the truths related in the annals of the ancient Hebrews, respecting the prevalence of pestilential diseases, which are mentioned in the several books of the Old and New Testaments.

Homer, the great master of Grecian poesy, who lived in the 3007 year of the world, agrees with Ovid and the sacred writers, and attributes the causes of the pestilence, which infested their armies at the siege of Troy and during their expeditions in that war, to extreme heat of the sun, whom he called Phœbus or Apollo, the allegorical name of that luminary, supposed to be enraged at the deeds of men below, according to their crude notions of the influence of celestial bodies and beings. He begins to rehearse the calamities of war in these words.

Achilles' wrath to Greece the direful spring
 Of woes unnumber'd, heavenly goddess sing ;
 That wrath which hurl'd to Pluto's gloomy reign
 The souls of mighty chiefs untimely slain ;
 Whose limbs unburi'd on the naked shore,
 Devouring dogs and hungry vultures tore.
 Since great Achilles and Atrides strove,
 Such was the counsel and the will of Jove.

The son of Jove and Latona being enraged at the king, excited a pestiferous disease through the army, and the people perished in great multitudes ; but

On mules and dogs the infection first began,
And last the vengeful arrows fixed in man :
But let some prophet, or some sacred sage,
Explore the cause of great Apollo's rage ;
If broken vows this heavy curse have laid,
Let altars smoke and hecatombs be paid ;
So heaven aton'd shall dying Greece restore,
And Phœbus dart his burning shafts no more.

Plutarchus, the historian and biographer, and Zonaras, mentions a great and terrible pestilence that happened in the 3266 year of the world, soon after the murder of Tattius, in the time of war, which killed the inhabitants instantaneously, without any previous indisposition or sickness ; even trees, cattle, horses, dogs, cats, sheep, &c. as well as men, were swept away by it, and all nature appeared one desolate and abandoned waste. If we consider the site of Rome, we can easily perceive the causes of this sweeping pestilence ; for Rome was situated in a level country, on the low banks of the Tyber, surrounded with the extensive Ostiensian and Pomptinian marshes, exposed to the powerful influence of Apollo, or the Sun, inclemencies of the seasons, subjected to a vitiation of the waters, commotions of the elements and inundations, whence all the pestilences of Rome have arisen in all latter ages. In that awful period, it is said to have rained blood, or crimson insects, which dyed the waters into the colour of blood, as happened in Egypt during the reign of Pharaoh ; the crops failed by the long drought, their enemies ravaged the country of Campania, the sword, famine and pestilence, raged in their cities, &c.

Plutarchus, also, has recorded another dreadful pestilence, that afflicted the inhabitants of Italy, and particularly the capital of the empire, in the year 3264 A. M. during the reign of Numa Pompilius and Hezekiah over Judah

and Sennacherib, king of Assyria, when 180,000 of the Assyrian armies perished in their camps at the siege of Jerusalem, which compelled them to raise the siege and to return to Nineveh, even after they had besieged and taken all the fenced cities of Judah, and had also captured Libnah itself, a city situate only 12 miles south-west of Jerusalem. On this great occasion N. Pompilius instituted the *Salii*, or Priests of Mars, who carried the sacred shields in procession, capering, dancing, and singing rude verses, to stop the pestilence.

T. Livius relates another pestilence, that happened in Rome during the reign of Tullius Hostilius, in the 336 A. M. in times of war, which arose from its calamities and the same causes we have often mentioned, and become so fatal, that all the operations of war were stopped, the martial spirit relaxed, and the inhabitants thinned by its ravages, as might be supposed, in the midst of the sickness and destruction of its numerous inhabitants.

Zosimus has recorded the prevalence of another pestilence, in 340 A. M. that infested the city of Rome, during the reign of Tarquinus, in the days of Darius Hystaspes, king of the Persians, which proceeded from the same causes that produced all the former plagues mentioned in preceding pages. Dionysius Halicarnassus, Murator and Functius, have also mentioned the occurrence of a great famine and pestilence, that invaded Rome in 370 A. M. and nearly depopulated Velitræ, a city of the Volsci, who were necessitated to apply to the Romans for inhabitants to repeople their city. A pestilence among domestic animals also prevailed at the same time, and carried off many thousands of them.

Dionysius Halicarnassus relates the invasion of the city of Rome and Campania, in the 350 A. M. by pestilence, which neither spared age, sex, condition nor constitution,

and yielded to no remedies which the Physicians and people could devise and apply, appearing suddenly, quickly destroying its subjects, and suddenly disappearing on the approach of steady cold weather.

Herodotus and Justinus have recorded the destruction of the army of Xerxes, retreating into Asia, after his defeat in the battle of Salamis, by grievous pestilential diseases. The plague of that period prevailed among his naval and land forces, and raged also in their cities, especially among the army under the command of his general Mardonius, besieging the cities, and in their retreat, when all the highways were strewed with their dead bodies, and devouring beasts and hungry vultures feasted upon their carcasses. The causes of their diseases and death were the inclemencies of the season, which was distinguished by tempests, inundations and commotions of the elements, and the hardships of disastrous wars, 3524 A. M. T. Livius, and Dionysius H. and Orosius, have also related the recurrence of a more terrible plague, invading the city and territories of Rome in 3540 A. M. This was a grievous time, say the historians, and a pestilential period, or year, both in the city and in the country, equally affecting men and beasts. The disease was produced by the great heat and drought, calamities and fatigues of war, and greatly augmented by crowds of countrymen and herds of cattle, which were received within the walls of the city in order to avoid the ravages, and plunderings, and destruction of the Latins and Hernici, who then desolated the country. It first seized the studs, herds of oxen, flocks of sheep and goats, in numerous bodies, and at last infested men. Many of the Patricians became victims to it, but it was most fatal among the poor people. It began about the calends of September and raged till the end of November, carried off the two consuls, Servilius and Æbutius, many illustrious Romans,

and a countless number of plebeians; the temples were filled with men, women and children, imploring the pardon and favour of Heaven; but Heaven seemed implacable, and the terrors of death seized upon every soul. A severe drought marked that period of sickness and death. So every year of great drought, or heavy rains and great heats, sudden changes, various inclemencies of the weather and inundations of the Tyber, Rome has suffered exceedingly by pestilence, in all ages of its existence, arising from the same causes, on account of its low damp situation, encompassed with marshes and a low Campania, exposed to the scorching sun; hence the ancients had a correct understanding of the causes of the insalubrity of Rome, as appears from the following tetrastichon, preserved by Baronius.

Roma vorax hominum, domat ardua colla virorum;
 Roma ferax febrium necis est uberrima frugum;
 Romanæ febres stabile est jure fideles;
 Quem semel invadunt, vix a vivente recedunt.

Which may be briefly interpreted, Rome, voracious of men, subdues the lofty necks of heroes; Rome, full of fevers, is most fruitful of the seeds of death; Roman fevers are faithful by their lasting course; whom they once invade they seldom quit the living man; or, Rome conquers men by hersword and kills them by her fevers. See Tacitus' description of the site of Rome. Indeed Avernus, a lake of Campania, near Baiæ, emitted such poisonous vapours, that no birds would harbour near its banks; and the ancients, in their flights of imagination, called it the road to hell.

T. Livius informs us of another terrible pestilence, in 3550 A. M. which desolated the whole country and exhausted the living with continual funerals of the dead: beasts and men equally became victims to it; famine preceded it, and it happened in time of peace. Great drought,

tremendous earthquakes, demolitions of cities and villages, commotions of the elements, excesses of the season, &c. marked this pestilential period, as well as that of 3565, succeeding it.

T. Livius relates another grievous pestilence, which arose from a pestilential state of the atmosphere, and affected Rome for five years, or five seasons in succession, from 3561 to 3566 A. M. The first year of the pestilence a great destruction was produced among the people; the second year increased the mortality, and the animals perished in great multitudes. A great famine also attended this destructive plague, proceeding from the long drought, which then prevailed throughout the territories of Rome; and they were compelled to buy corn in Etruria, the Pontine territories and Sicily. The prevalence of this pestilence suspended all ordinary business, and the people assembled in crowds in the temples to prayer, and consulted and obeyed the Sibylline books, to appease the gods and to avert the plague. This year was characterised by a long and scorching drought in summer; multitudes of cattle perished with thirst, and the surviving few thronged around the arid fountains; diseases invaded them and the poor class of people and countrymen, and at last infested the city.

In the 3575th year of the world a grievous plague broke out at Athens, in the second year of the Peloponnesian war, when all the inhabitants of the Athenian territory were crowded into the city, to avoid the destructive ravages of the Lacedemonians, and destroyed 5000 of the prime of their armies, an immense multitude of the poor, continued for five years, raged with incredible violence and mortality, and reduced the republic of Athens to the verge of ruin. It began in the end of an open spring after a severe winter, raged the four following summers and autumns, was especially fatal to their armies at the siege of Epidaurus, Poti-

dea, and continued through the hard winters. Thucydides, Plutarchus, Lucretius, Anacharsis and Hippocrates, all mention the prevalence of this pestilence, which killed the domestic animals as well as men. It raged in Persia at the same time, and Artaxerxes, the king of Persia, sent for Hippocrates, the great Physician of Cos and Greece, to come to arrest its progress ; but he nobly answered the Persian monarch in these words to Hystanus, prefect of the Hellespont : “ To the epistle which you have sent, and you have asserted to have come from the king, write to the king as I briefly answer, We enjoy victuals, clothing, homes, and every thing necessary for life in abundance ; and it is neither right for me to use the wealth of the Persians nor to liberate barbarians from diseases, while they may be the enemies of the Grecians. Farewell.” Thucydides describes the symptoms of this plague in a cursory manner, Lucretius more minutely, and from both these historians we collect the following morbid phenomena : The invasion was sudden and unexpected ; the disease began with a violent headache, fiery redness of the eyes, succeeded by an inflammation of the throat, difficulty of breathing and offensive breath ; a sneezing and hoarseness, cough and pains in the chest, violent fever and thirst, &c. supervened ; watchfulness and delirium, or stupor ; vomiting of bilious matter ; excessive anguish and prostration of strength ; urgent flux of the bowels in the second stage of the disease : in the first stage the stools were black and fetid, and the intestines often altogether obstructed, with great pains and heat in the belly ; hiccups and bleedings of the gums, throat, nostrils, bowels, &c. ; convulsions ; madness or fatuity often followed a recovery ; pustules and sores all over the skin, which was reddish, livid and spotted ; and the disease commonly terminated in five, seven, or nine days. It invaded the young and old, males and females, slaves and free-born, weak and strong ;

it spared neither age, sex, constitution nor condition, and no remedies were discovered to mitigate its violence nor to arrest its progress. The historian, in speaking of the calamity, brings the causes of this pestilence into view, when he says, "As they had no houses, but dwelt in booths all the summer season, where there was scarce room to breathe, the pestilence destroyed with the utmost confusion, so that they lay together in heaps, the dying upon the dead and the dead upon the dying ; they were tumbling one over another in the public streets, or lay expiring round every fountain, whither they had crept to assuage their intolerable thirst. The temples in which they had erected tents for their reception, were full of the dead bodies of those who had expired there." Now this bilious plague of Athens exhibited the same symptoms that the yellow fever of America exhibits ; and the latter so exactly resembles the former, that we may conclude that both arose from the same causes, according to the facts afforded us by the prevalence of bilious yellow fever among the Irish emigrants confined and crowded in New-York in 1795, and other periods which we shall afterwards mention. The drought in Rome, during that period, was extreme, the springs and fountains were exhausted, multitudes of beasts perished at the fountains and in the streets, and pestilence among cattle and then among men began to rage.

Plutarchus, Livius and Zosimus, have recorded the prevalence of a great pestilence, in the 3609 year of the world, during the reign of Philip of Macedon and Artaxerxes of Persia. The winter was very severe, the Tyber was frozen up, the highways were choked up with deep snow, the spring opened suddenly to great heat and drought from intense cold, and produced an awful pestilence among men and beasts. The historians attribute the causes of this disease to the sudden changes of the seasons and inclemencies

of the weather, “either from the intemperance of the sky, rapidly changed into the contrary extreme, or any other cause whatever, a grievous and pestilent summer affected all animals; on account of this mortality, when neither the cause nor the end was found, the Sibylline books were again considered in a *Senatus Consultum*, which gave a melancholy occasion for instituting the *Lectisternium*, to appease the gods and solicit the restoration of health.”

Justinus and Diodorus Siculus have recorded another pestilence, which began about the 3600 year of the world and almost depopulated Carthage. The Carthaginians sent on an expedition under Imilco, to reduce revolted Sicily, were seized with the same pestilence; and Imilco, who had taken many cities, by the sudden influence of a pestilential atmosphere lost his army, was compelled to return and to abandon the island. This plague was distinguished by the remarkable symptoms of violent dysenteries, raging fevers, inflammations or burnings of the entrails, acute pains in all parts of the body, immense anguish and depression; delirium and madness, running wild in the streets, &c. which in our days attend expeditions and long campaigns in warm climates, or in warm seasons of the year; witness the expeditions of the Britons in Egypt, East Indies, Flanders, Germany, Brabant, West Indies, &c. Those seasons were marked with long drought, extreme heat in summer, excessive damps in autumn, all sudden and great mutations of the weather, eruptions of volcanoes, inundations of rivers, &c. and thence the causes of the pestilence were evident to all men. Livius also records the occurrence of a dreadful pestilence in the armies of Rome and Gaul, while Brennus, the Briton, and noble commander of the Gauls, besieged and captured Rome in 3611 A. M. The Gauls being unaccustomed to great heat, confined between two hills, exposed to the burning rays of the sun, breathed noxious effluvia,

vapours, smoke, lay on the cold ground, exposed to the damp night air, exhausted by fatigue, perished in great multitudes, and being wearied with burying their dead, the survivors burned them in great piles. Another plague happened in 3621 A. M. occasioned by dearth, famine, &c.

The same author mentions another pestilence infesting Rome in the 3638 A. M. which continued three years, and swept away the great Camillus and innumerable multitudes of the people. In the height of the disease 10,000 of the citizens died in a day. It raged most terribly in September, October and November, in which it prevails in all other places of the earth, and they resorted to the Sibylline books and the *Lectisternium* in vain. The pestilence raged dreadfully, spared neither age nor sex; and, to add to their calamities, the earth opened in the midst of Rome, and an awful chasm, or a gulf presented itself, the following year, into which M. Curtius threw himself for the salvation of the city!!! O the power of superstition, and the influence of false religion! and the Lake of Alba rose instantaneously and overflowed all its banks; earthquakes shook Achaia, and the two cities Bura and Helice were devoured or swallowed up by the sinking of the earth. See also Orosius, Murator and Paulus Diaconus. P. Orosius describes and illustrates the great causes of this pestilence in expressions similar to the following: "This was such a pestilence as usually proceeded from irregular seasons, extreme drought, sudden heat of the spring, unseasonable moisture of the summer and autumn, or the impure air blown from the Calabrian Groves; but was severe and continual, attacking all descriptions of people, and either destroying their lives or leaving them in a weak and miserable condition," which implies a belief, that then existed among them, of its being produced by the irregularities of the seasons

and a pestilential constitution of the atmosphere, according to the great doctrines of Hippocrates, who dictated Medicine to the whole world in those days. Indeed the convulsions of nature were so dismal, the tempests so tremendous, the storms of rains and winds so terrible, the eruptions of volcanoes so horrific, that men were stunned with horror, and the world appeared to sink in an universal deluge. The rains of heaven deluged the earth for several months, darkness obscured the splendour of the sun, tempestuous winds ravaged the country, streams of fire traversed the skies, celestial meteors and excessive drought, great inundations abounded and prevailed, hence we may account for the floods in the times of Ogyges and Deucalion, as Pausanius, Anacharsis and Aristotle relate.

In 3655 A. M. a pestilence happened in Rome in time of peace, and in 3672 a more severe plague arose, which, say P. Diaconus and Livius, was considered to proceed from corrupt air, intemperance of the heavens, and in 3672 A. M. another pestilence appeared in that devoted city; and in 3708 a pestilence commenced and continued for three or four years, especially among the Samnites, over whom the Romans celebrated the triumphs of their conquests: the spectacle was a solemn mixture of joy and sorrow; the triumphal procession of the Romans, accompanied with acclamations of joy, and the funeral procession of the Samnites, with lamentations for the dead, as Orosius and Livius observe respecting their calamities.

Orosius also mentions a remarkable pestilence in 3713 A. M. invading both the city and its suburbs, which was so fatal to pregnant women and breeding cattle, that it vacated the future offspring, by killing the fœtuses in the womb. The miseries of the Romans, says the historian, have no truce, the intervals of warfare is wasted with

the calamities of diseases, and when war has ceased abroad the wrath of heaven is agitated at home.

P. Diaconus and Orosius relate the circumstances of another dreadful pestilence raging in Rome for two or three years, which swept away countless multitudes of the citizens, in 3732 A. M. This period of disease was memorable for a severe winter; the snow fell to a prodigious depth; lay in the Forum for forty days; unusual agitations of the elements and nature; extraordinary seasons and irregularities of the weather appeared and existed in those times of destruction.

Plutarchus, Orosius, P. Diaconus, Murator, mention, that the Roman armies, who marched into Gaul, were retarded in their marches by heavy and violent rains, attended with all the prodigies and uncommon seasons usually observed in such periods of sickness.

Livius gives us an account of a great mortality happening among the armies of the Romans and Carthaginians at the siege of Syracuse, by Marcellus, in 3791 A. M. especially among the Carthaginians, who totally perished with their two generals, Hippocrates and Himilco. A pestilence, says Livius, broke out in both armies, that diverted their minds from the concerns of war, for it occurred in autumn, and in a very unhealthy situation. The heat, which was greater without than within the city, affected almost every person in both camps. At first persons sickened and died by the unhealthiness of the place, afterwards the diseases spread, and the survivors, supposing it to be contagious or infectious, abandoned the sick to inevitable death; continual burials and death were before their eyes, and their ears were assailed with diurnal and nocturnal lamentations. At length the survivors became hardened with the appearance of death, neither grieved nor interred their

dead, and their bodies lay unburied in the streets, in the sight of other expectants of destruction. The dead affected the sick, the sick affected the sound with terror and stench, and many, wishing death rather than life, rushed on the posts of their enemies. The causes of this pestilence, independent of the hardships of war, were extreme heat, exposures to the burning sun by day and cold dews by night, the vapours of stagnant waters, the Carthaginians being encamped in low marshy grounds, suffered by the intolerable heat above and deadly damps below. Livius says, that a pestilence appeared in Rome, in the same year, as a great epidemic, "*Eo anno pestilentia gravis incidit in urbem, agrosque omnes, quæ tamen magis in longos morbos quam in perniciales evasit ;*" and also another pestilence, occurred among those same armies in Bruttium, in 3798 A. M. This period of disease was marked by the appearance of immense swarms of locusts covering the whole land near Capua, in consequence of long drought and heat, preceding the prevalence of great plagues, whereby myriads of locusts, swarms of insects, and hosts of reptiles were generated.

According to Livius, the Roman and Rhodian fleets anchored at Phaselis in the gulf of Pamphylia, in the midst of summer, and in an unwholesome situation, suffered by pestilential diseases, especially the rowers, who were subjected to hard labour and exposed to the burning rays of the sun.

The same historian mentions a violent pestilence, which ravaged all Italy for several years. In 3822 and 3823, a drought of six months and a consequent dearth of corn happened, distinguished and followed by terrible storms, pernicious seasons, horrible tempests and awful commotions of the elements, coldness, dampness, moisture and dryness, noxious vapours and putrid exhalations. This uncommon

season was followed by a great pestilence among cattle and among the inhabitants of Rome in the summer and autumn of 3827 A. M. “*Pestilentia quæ priore anno ingruerat in boves, eo verteret in hominum morbos; qui inciderant, haud facile septimum diem superabant: qui superaverant, longinquo, maxime quartanæ, implicabantur, morbo. Servitia maxime moriebantur; eorum strages per omnes vias insepulorum erat. Ne liberorum quidem funeribus subficebat. Cadavara, intacta a canibus ac vulturibus, tabes absu- mebat; satisque constabat nec illo, nec priore anno in tanta strage boum hominumque vulturium usquam visum.*” The interpretation of this energetic paragraph of that eloquent historian is nearly as follows: The pestilence, which in the prior year had attacked the cattle, now turns into diseases of men; those who were seized survived the seventh day with great difficulty; who survived that time were implicated by a long disease, especially of the quartan form. The slaves principally died, and multitudes of dead were about the highways unburied. Indeed it was sufficient to bury the free citizens. Their dead carcasses, untouched by dogs and vultures, did waste away by corruption; it was sufficiently evident, that neither in this nor the former year, in the midst of so great destruction among the oxen and men, a vulture was ever seen. Now we draw the following conclusions from these fruitful words of the historian—

That the causes of the pestilence first produced their effects in beasts and then affected mankind.

That the disease underwent a critical change on the seventh day, terminating either in death or some other tedious distemper, as an autumnal ague, dropsy, consumption, insanity, disease of the spleen, liver, brain, lungs, &c.

That it was most deadly among the lower orders of society, who were, and are, most distressed in times of scar-

city, and most exposed to the inclemencies of the seasons, lie in low damp beds, use poor diet, were subjected to hard labour, &c.

That the carnivorous animals, as dogs, vultures, wild beasts of prey, were sick themselves, and could not touch the offensive bodies ; indeed all the vultures deserted the infected provinces.

That the disease was the same as our yellow, bilious, remittent or malignant fever, in all its symptoms, modifications, causes, progress and terminations.

That the pestilential period was four years, from 3827 to 3831, when swarms of locusts deluged Apulia, as the Pontine province was covered the preceding year. So destructive were their ravages, that Sicinius, the pretor, was commissioned with an army to drive them away.

Orosius again relates a great pestilence, that desolated Rome in the 3860 year of the world, when their dead bodies lay unburied, and became so putrid in the houses, streets, lanes, and in all parts, that no person could approach the city.

T. Livius, Orosius, Diaconus, Justinus and others, have recorded the facts of the occurrence of a most dreadful pestilence in Africa, in 3878 A. M. from the stench arising from the putrid carcasses of dead locusts, which were brought by a strong east wind into the borders of Numidia and Utica, in such multitudes that they devoured every green thing, even the barks of trees ; and were again driven, by a strong south wind, into the Mediterranean, and being washed on the shore in the warm season of the year they putrified and produced this awful pestilence, which destroyed 800,000 persons in Numidia alone, 200,000 on the sea coast of Carthage, and 30,000 men of the Roman troops, and no less than 1500 dead bodies were carried out of one

of the gates of Utica in a single day. Those historians may have attributed this pestilence to the putrid carcasses of dead locusts, but they as well as we well know, that the long drought and heat, or the same state of the atmosphere or elements, which favoured the generation of locusts and other insects, first existed to affect the bodies of men at the same time, and we have no occasion to resort to the locusts for the causes of this pestilence; at the same time we do believe that the stench of the locusts would hasten the production, and augment the violence, of this terrible and deadly pestilence. The historians themselves considered heat and drought necessary for the generation of those insects, and cold and rain destructive of their eggs, so what are favourable for this prodigious process of nature are also powerful for the production of diseases, and in reviewing the pages of history, we have found it invariably true, in every period of the world, in all warm countries, that the violence and prevalence of epidemic pestilences are proportioned to the nature, virulence, number and vehemence of the surrounding causes, as earthquakes, eruptions of volcanoes, electric permeation, occurrence of tempests, inundations, the long continuance of drought and heat, sudden cold damp weather succeeding dryness, stench of dead animals, calamities of war, famines, &c. &c. During the civil wars, which were excited by Sylla and Marius, the Roman armies lost 10,000 men, by the plague in 3915 A. M. in which Octavius was consul.

Dion Cassius also mentions another pestilential period, which commenced in the 3974 year of the world and continued till 3979, during which gloomy period a pestilence raged in Jerusalem, destroying the nobles and people of the Jews; prevailed also in Rome and Palestine, which was preceded by a long drought and vehement heat, inclement seasons, excessive weather, hard times, sudden changes of

temperature, great storms, commotions of the elements, convulsions of the earth, &c.

Tacitus, too, relates the prevalence of a pestilence in the east, in Asia Minor, in 4018 year of the world, and another is recorded by Suetonius to have raged in Babylonia, and caused multitudes of the Jews to withdraw to Seleucia. This year was marked with a great famine, also, in fulfilment of the prophecy of Agabus in Acts xi. 28. during the reign of Claudius Cæsar, in Italy and Greece, in the same year.

Tacitus, Plinius, Suetonius, give us accounts of the prodigies of those periods of pestilence and destruction in 4057 and 4058 A. M. when most of the officers in Rome died of diseases, *Ex omnium Magistratum generi plerique mortem obierant.*

In the reign of Nero another pestilential period ensued and raged mortally in Rome, 4072 A. M. and carried off 30,000 persons; yea, countless multitudes of people became victims to it. Tacitus gives an affecting history of the ravages of this pestilence, "the houses were filled with dead bodies and the streets with funerals; neither age, sex nor condition, were exempted from it; slaves and plebeians were suddenly carried off, amidst the lamentations of their wives and their children, who were also seized with the disease, while they assisted the sick and mourned over their dead, and perished and were burned on the same funeral piles. The knights and the senators suffered least in this dismal calamity. Rome, at that period, contained one million of inhabitants, and a plague so mortal must have extinguished the lives of immense multitudes of people, and instead of 30,000 we could not have wondered to hear of the deaths of more than one third of the whole population; for in London, during the great pestilence of 1666, 7000 and upwards died in the week, and that city did not then

contain 1,000,000 of souls. In the pestilential period under consideration, earthquakes, eruptions of volcanoes, sulphureous vapours, inundations, tempestuous seasons and awful commotions of nature, distinguished the nature of the atmosphere all over the globe. Consult Tacitus, Suetonius, Seneca, Baronius, Plinius, Functius, Orosius, Dion Cassius, &c.

The next pestilential period is the most remarkable of all those recorded in the pages of history. In June a comet appeared; in the first of November a most tremendous ebullition of burning lava issued from the crater of Vesuvius, deluged the country, and Herculaneum and Pompeium sunk in a moment, and all their inhabitants were buried in one universal mass; thunder and lightning pierced the heavens, and the ashes and smoke of the burning gulf discharged into the air were carried to Rome, Syria and Africa, and the inhabitants of the country trembled lest the whole world would be reduced, or turned into a chaos, or consumed to ashes; and the fishes of the neighbouring seas were killed. All these things were preceded by a long drought in Italy during the summer, and in the autumn of 4084 A. M. a most tremendous pestilence broke out in Rome, and destroyed, for some time, 10,000 citizens in the day. Here we see the regular order of causes and effects to constitute this dismal period of death and destruction; 1st, the long drought and heat and prodigies preceding the awful pestilence; 2d, the concentrated powers of the efficient causes to produce such a calamity.

In the year 88 A. D. or 4092 A. M. a pestilence appeared in the north of England, and destroyed in 4096 a 150,000 lives in Scotland, all arising from the peculiar constitution of the seasons and circumambient atmosphere.

In the year 4118 A. M. a pestilence existed in Wales, and killed 45,000 of the inhabitants, after a hot summer and an

inclement autumn. Indeed in those days great inundations of the rivers, especially of the Severn, happened, and destroyed many in their beds and carried away 5,000 head of cattle.

In 4141 A. M. a great drought existed in England, and the Thames was almost dried up. This was followed by a plague, and another happened in Scotland in 4150 A. M. to the great destruction of the inhabitants.

In 4058 dreadful commotions of the elements marked the approach of pestilence in Arabia, and in 4171 it appeared in Rome, during the reign of Marcus Aurelius Antonius et Lucius Verus, preceded by a more terrible and destructive plague in Asia, and the great Ammianus Marcellinus, the philosophic hero, asserts, that this pestilence arose from foul air of a small box which a Roman soldier had opened at the capture of Seleucia ; but the superstition of ages, or supposition of men, has confounded the senses of men in all ages ; and we have only to attend to the great phenomena of nature during this period, in order to shake off all our false notions respecting the causes of every pestilence that has existed, or will exist, among men. In that period the state of the elements was deranged ; commotions of the physical world, inundations of rivers and seas, agitations of the earth, devastations of locusts, caterpillars and other insects, famine, putrid vapours, and great inclemencies and irregularities of the seasons, premonstrated the approach of a terrible pestilence, which in the same year desolated Rome. The symptoms of this plague were a burning fever and gangrene of the extremities of the feet ; but the times were distinguished for wars and rumours of wars ; 450,000 Romans were massacred in Syria and Cyprus, by the Jews ; an earthquake demolished 14 cities, among the rest Antioch, with 100,000 inhabitants ; 580,000 perished by famine, the sword and pestilence. Hear the lucid description of those calamities

by Aurelius Victor, speaking of the emperor M. Antonius, "Unless he had been born for these times, all the affairs of the Roman empire would have been ruined assuredly, as if by one fall; for there was rest no where from arms, and wars burned through all the East, Illyricum, Italy and Gaul. The motions of the earth with annihilation of cities, inundations of the rivers, thick pestilences, species of locusts infested the fields; indeed nothing can be said or conceived by which mortals used to be wasted with the severest agonies, which have not raged during his administration." Here is a series of wars, massacres, ravages of insects, plagues, destructions by earthquakes, inclemencies of the seasons, which destroyed one fourth of the inhabitants of the globe on the eve of the annihilation of the Roman empire, presented to our view, and the same pestilences continued during the existence of such seasons, times, commotions and devastations of the world.

In the year 4177 A. M. a pestilence raged in the Roman armies and threatened their utter extermination, and in 4079 and 4082 A. M. prevailed in the capital of the empire. In 4177 there was a severe winter, and a consequent famine in England, which became very sickly in summer and autumn: the winter following that year was also very severe.

In the 4187 year of the world a great pestilence again visited Rome, and in 4199 A. M. another plague seemed to infect all Italy, and particularly afflicted the inhabitants of that city. A great pestilence, says the historian, raged in all Italy, and became most violent in Rome, by reason of the great concourse of people assembled from all quarters of the world. The emperor, by the advice of his Physicians, retired to Laurentum, a cool place, beautifully shaded with laurels, on the supposition that the sweet smell of those laurels counteracted the contagion: the people in the city were also advised by the Physicians to fill

their noses and ears with sweet smelling ointments, and to use perfumes and all odours in order to prevent the action of the human effluvia and the contagious air. But these did not check the distemper, and men and cattle continued to perish in multitudes. Five thousand died daily in Rome for a considerable time, and famine and pestilence continued for three years to devastate the land. See Herodian, Dion Cassius, &c.

In 4215 A. M. a plague appeared in the metropolis of the British Isles, and an earthquake and a great inundation of the river Trent, destroying many lives; and in 4222 a great inundation of the Tweed, and a pestilence in 4226, destroyed 100,000 lives in Scotland; a great death of the fishes in the sea in 4235 happened, and they stank on the shores of Britain; an earthquake in Wales in 4236, and in 4247, and in 4249 A. M. a prodigious inundation of the sea happened in Lincolnshire in England, and laid many thousand acres of land under the waters. All these periods were marked with severe winters, drougthy summers, sultry autumns, and all the commotions of the elements that can be named.

In 4254 A. M. a period of mortal plagues commenced and affected the whole world. Comets appeared, the winters were severe, volcanoes vomited out their flamivimous lava, the earth did shake, the seasons were changed, the elements were agitated, the summers were dry and hot, the autumns were insalubrious, and plagues began to rage in Italy, Ethiopia, Egypt, Asia, Africa, Gaul, Spain, Scotland, and all over Europe, or over all the provinces of the universal Roman empire; indeed Scotland had scarcely living enough to bury the dead. Zosimus says, "a pestilient fever also in towns and villages followed the Scythians, devoured the scanty remains of the human race," namely, what the Scythians had left in their devastations of the

country. Pestilence indeed hath contaminated the face of the whole earth, says Jornandes ; and in the reign of Gallienus 5,000 citizens of Rome perished daily in 4266, and it desolated the whole Roman empire. Orosius says, there was no Roman province, no city, no house scarcely, which was not seized and desolated by this general pestilence. This is a demonstrative evidence, that the general state of the atmosphere or pestilential constitution of the season and weather, produced the plague on the most elevated mountains and salubrious habitations, in detached villages, houses, and places far distant from all sources of contagion. A moiety of the human species became a prey to this horrid pestilence. Cedrenus, too, mentions, that this disease began in autumn and ended on the rising of the Dog Star, or August. Eusebius relates the impurity and universal corruption of the atmosphere during this pestilence in a very philosophical description of its causes : the air was so noxious, every where deranged with corrupt vapours, fumes from the earth so putrid, winds from the sea, vapours from the rivers, and exhalations from the ports, so injurious, that a certain poisonous liquor, as it were from putrid carcasses, was brought by the elements and covered the subjacent objects, seats or benches, walls of houses and apartments, and the dew appeared like the sanies of dead bodies. And to prove the real nature of this pestilence, we have only to adduce the facts related by Cyprianus respecting the symptoms of the malady itself, as a dejection of spirits, exhaustion of strength, incessant involuntary evacuations, as in palsies, violent fever of the bowels, inflammation of the mouth, swelling of the stomach, sparkling of the eyes, destruction of the sight, hearing, feeling, feet and hands, and organs of generation ; and Aurelius Victor asserts concerning this plague, that it spread at once over Rome, and arose from heavy cares and desperation of mind, as well as the

pestiferous state of the atmosphere, which generated plague in every town, village, house and habitation. Here we might remark, that famine sometimes precedes, sometimes follows pestilence; both arise from the same causes, and both observe similar courses; because they both proceed from the same derangement of the seasons, excess of rains, long drought, devastations of locusts, the total failures of the crops from these causes, the destructions produced by war and tempests, &c. This awful pestilence raged from 4254 to 4269 A. M. without interruption, in every province, every city, every town, in every village and in every house, in the empire; seizing this town one year, that city the next year, raging eight or twelve months in one place and three months in another, and so continued to prevail for fifteen successive years.

Cedrenus has recorded the prevalence of a great drought, famine and pestilence, in 4296 A. M. wherein the bodies of men were covered with carbuncles and putrefying ulcers. Baronius also mentions the same symptoms in a pestilence which arose from excessive heat, produced anthracoses or carbuncles, over all the bodies of the sick, and gangrene, blindness and madness, and destroyed vast multitudes of people of all ages, sexes and occupations. A drought of 36 years in Cyprus destroyed all green herbs, trees and vegetables, induced famines and pestilences, and ultimately destroyed the inhabitants. In 4314 A. M. a famine destroyed 40,000 lives in England and Wales, and in 4329 A. M. another famine prevailed all over Britain.

In 4340 A. M. pestilential diseases desolated Syria and Cilicia, and in 4362 drought, famine, pestilence, destructions of innumerable cities by earthquakes, explosions of subterraneous fires, inundations, long droughts, excessive heat, intemperate seasons, hard winters, happened during these deadly periods, 4340, 59, 62, 66, 71, 72, 79, A. M.

In Wales, in 4379, 43,000 persons died of a pestilence and the following year was marked by a famine and an universal pestilence among men and beasts all over the world; and on account of the famine the inhabitants of Phrygia abandoned their country.

In 4387 A. M. a plague raged in Italy and Syria, the inundation of the Nile threatened the destruction of Alexandria and Lybia, and in 4399 A. M. storms, rains, dismal darkness, swarms of locusts covered the land of Judea, were driven into the sea, were washed on the shores of Palestine, near Gaza, Askelon and Azotus, filled the air with effluvia, and induced a dreadful pestilence among men and beasts; we are of an opinion, however, that the very causes which bred these locusts, were sufficient to predispose men to the pestilence.

In the years 4404, 4411 and 4423 A. M. most tremendous winters, deluges of rain, excessive droughts and heats in the summers, succeeded or preceded by immense rains and inundations, intolerable cold storms of hail occurred, comets appeared, earthquakes terrified men, and the mildew blasted all vegetation; hence famine, pestilence and depopulation. Palestine was devoured by locusts; Asia, Africa, Europe, endured unspeakable miseries, and the people demanded the use of human flesh to preserve the race of mankind.

In the 4446 A. M. commenced a period of universal pestilence, in the reign of Theodosius Junior; severe winters happened from this time to 4449, with deep snow-falls; the Huns ravaged the country, destroyed all provisions, great eruptions of the sea in Wales, hurricanes, inclement seasons, marked the period of disease, and a plague and famine raged in all parts of the world, especially in Constantinople, whose walls were almost demolished by continual earthquakes; other cities were swallowed up, large

hills were formed, islands disappeared in the ocean, the ships were left on dry land, springs dried up, new fountains appeared, and innumerable multitudes of fishes perished in these awful commotions of the natural elements.

In 4462 A. M. the pestilence swept away incredible multitudes of people in England, as well as the inhabitants of other regions of the earth, so that the living were fatigued to bury their dead. It must be observed, that famine first occurred, then abundance of provisions, and lastly the plague, began to prey upon the bodies of men, as Nicephorus, Beda, Baronius, Echardus, Magde. relate. Parents were compelled to eat their own children, in Italy, Capadocia, Galatia and Phrygia ; and the pestilence also made great havoc at the same time, and no remedies could be found to alleviate the disease. The bodies of the sick were covered all over with inflamed tumours, the eyes were destroyed, a cough succeeded the eruption, and life terminated the third day.

In 4454 A. M. a great drought affected the earth, and continued the calamities of men for several years, even to 4471, which was distinguished by a pestilence in Rome. In 4477 severe seasons and pestilence appeared in Rome. A plague infested Scotland in 4484. In 4488 a great and terrible drought occurred, burned up all the vines, olive-trees, rendered the earth pale and naked, all nature appeared one desolated waste, and pestilence began to rage in Egypt, Africa, Asia, Græcia, Italia, &c.

In 4506 there was a severe winter, a wet spring, a warm summer, a sultry autumn, and a pestilence carried off men and beasts in Scotland. In 4521 five years drought occurred in Palestine, and in 4535 famine and pestilence prevailed in Wales.

In 4538 one of the most distressing famines that ever afflicted the human species, is said to have commenced and

continued 8 or 9 years, and destroyed innumerable multitudes of men and beasts. The Goths and Burgundians ravaged Italy, left the lands desolated, augmented the famine, and thousands of people fed on human flesh ; many districts of Italy were deserted ; 50,000 persons perished in Picenum alone, and awful were the aspects of the famishing ; their bodies became thin and ghastly, their skin was dry and hard like leather, cleaving to their bones, their flesh assumed a darkish appearance like charcoal, their countenances were stern and senseless, and the bile was redundant ; their bodies lost their heat and vigour, and the people went to the fields and gnawed vegetables in the last extremities of life. No accounts of any pestilence occurring during this famine are given by historians ; the plague did not break out till two or three years afterwards, when all the inhabitants of those countries enjoyed plenty of provisions, 4546 A. M. Cedrenus and P. Diaconus mention, that in 4546—7 a grievous plague appeared in Constantinople, Egypt, and Ireland ; there was also a dearth of corn, wine and oil, and another pestilence happened in 4549 and 4562 in the same places, and a terrible dysentery raged in France in 4548 and 4552, with signs of plague. In 4566 a great drought occurred and an universal pestilence infested the whole world, and continued to rage mortally the following 52 years. In 4569, 584, 587, 591, 594, 600 to 614, vehement droughts, plagues and pestilences raged in France, Germany, Italy, and other countries of Europe. Procopius relates some excellent facts respecting this pestilence which dispeopled the whole earth during the reign of Justinian 1st. and the following age, namely, that this pestilence, which almost totally destroyed the human race, and for which no cause could be assigned but the will of God, did not rage in one part of the world only, nor in one season of the year, but it ravaged the whole world, seizing all descriptions of

people, without any respect to the different ages, habits or constitutions, places of residence, their ways of subsistence, their modes of living, or their different pursuits ; some were seized in winter, some in the summer, others in autumn and spring. It first began to alarm people in Pelusium in Egypt ; then appeared in Alexandria, Palestine, throughout all parts of Egypt, and ultimately extended over all parts of the world, desolating islands, caves, mountains, cities, towns, villages, and houses, wherever men did dwell. Most persons were seized suddenly without any warning, nor was there any alteration of the colour or heat of their bodies ; for until night the fever was so slight that the patient did not apprehend himself to be sick, nor did the physician, from the pulse, apprehend any danger. But in many cases, the first day, in others the second day, in some the third day, buboes arose, either in the groins, armpits, neck, or in some other glandular parts ; and all patients had these symptoms alike. Many were seized with stupor and drowsiness, others were agitated in furious delirium ; the drowsy and slumbering would eat all things offered to them, forgot all things, were senseless and stupid in their countenances and senses, neither physician nor attendant caught the distemper from contact of the sick, and many who recovered encouraged themselves in their wonderful escape, applied themselves with great assiduity to acts of kindness and humanity, caring for and attending the sick and burying the dead. Many suddenly died. Many recovered after being given up by the physicians, many died when they supposed them out of danger. Many died for want of relief, others recovered without any assistance. No cause of the disease could be devised by human reason ; no means of prevention or cure were discovered. To some bathing was beneficial, to others it was injurious. Many leaped into the sea. In many the buboes turned immediately into gan-

grene, and the patients died in excruciating anguish. The physicians opened the bodies of some, and found within them sores or large carbuncles and impostumes. Those whose bodies were spotted with black or livid pimples of the size of lentils, did not live a day. Those whose sores discharged freely escaped with life, and these were certain signs of recovery. Some had their limbs withered, others lost the faculty of speech. To women with child the disease was certain death. It lasted four months in Constantinople, and as it increased 10,000 persons died every day. Procopius called it arrogance to pretend to assign the natural causes of this pestilence, declaring them undiscoverable; and being an ecclesiastic, he ascribed them to the displeasure of Heaven, or considered it a visitation from God, and describes a plague, that raged fifty-two years through the whole world, and totally devastated cities, towns, villages, districts and provinces. In some places it raged in the winter, in others in the spring; in some districts in the summer, and in others in the autumn; in some parts of cities, in some villages, in some places at different times and seasons. This disease was a compound of many others, say Evagrius and Nicephorus; for in some persons it seized the head, rendering the eyes red and suffused with blood, producing swellings of the face, then falling upon the throat quickly destroyed their lives. Some were afflicted with a looseness of the bowels, and died the second or third day, with the body and mind apparently sound. Some were seized with delirium, and died in apoplexy. Carbuncles, Agathius says, arose on the bodies of many and extinguished their lives; some recovered two or three times, relapsed and died. The modes of contracting the disease were various, and baffled all calculations. Some perished remaining in the infected houses, others were seized in the chambers of the dying; some were seized in the markets, others

were taken in the fields ; the most robust constitutions survived only three, four or five days ; sometimes the critical days in the Athenian plague were the seventh and ninth ; giddiness, stupor, buboes, &c. marked its approach ; certain little marks appeared on the doors of their houses, garments, and utensils, which could not be washed out ; some white crusts of a particular deposition of the air, adhered to all things, as damp moulds do on walls of houses, and dews on the grass.

We cannot understand how these historians could overlook or be unwilling to assign the causes of this awful pestilence, on any other grounds than ecclesiastical superstition, ascribing the causes of all human calamities to the visitations of an angry God ; for the causes of that as well as all other pestilences since the creation of man, are evidently pointed out in histories, and suggested to human reason by the surrounding elements and their commotions in the natural world. The order of the natural phenomena preceding and during the prevalence of this pestilence was as follows : tremendous earthquakes, eruptions of volcanoes, appearances of comets and meteors, running of lightning, deluges of rain and inundations, great tempests, long and excessive droughts, severe winters, sultry summers, cold and variable springs and suffocating autumns, inclement seasons and weather ; the heat was so excessive, that eighty persons dropped dead on the streets of Rome, during the procession instituted by St. Gregory ; serpents washed from the mountains by the torrents, frogs killed by the elements, flies and insects, worms and locusts, wild and domestic animals destroyed, and the putrid bodies of men killed by famine, sword or diseases, putrefied on the surface of the earth, and augmented the virulence and violence of all other causes, which could be productive of this pestilence. Swarms of locusts always arise from long droughts,

devour all vegetation and induce famine ; famine emaciates the bodies and depresses the spirits of men ; sudden changes of temperature or damp habitations, or nocturnal dewy cold, after long heat, will always affect such enervated frames, and create disorders of the very worst species and gradation, independent of the powers of sultry weather, rains, damps, cold north and hot south winds, tempests, noxious air and bad victuals. Pistorius says, that men died suddenly, in a moment, at play, at table, in the house, in the field, in conversation, or even in the act of sneezing, nodding, gaping, &c. and we may naturally conclude that the heat was very great. The severe winters killed the vines, the frost blighted the corn, the summer was dry and hot in 4606, 608—9, and in 4619 an epidemic elephantiasis raged in Italy, in 4621 a great pestilence ; in 4643—4 we also hear of the plague in Syria, Arabia, Medina, &c. In 4655 a great pestilence raged in Italy ; in 4658 in Constantinople ; in 4668—9 in Normandy, England, Ireland, Egypt, Italy, &c. ; in 4676 in England ; in 4682 calamitous tempests occurred to blast the fruits of the earth in Britain ; swarms of locusts covered Syria and Mesopotamia, and universal pestilence followed such dreadful phenomena in England and Ireland in 4683, beginning in July and ending in September ; and in 4684 Rome was depopulated by its ravages ; “ parents and children, brothers and sisters, husbands and wives, were carried to their graves on the same bier.” In 4685 a famine again raged in England from a long drought of three years, and in 4687 a pestilence followed it, as well as in Syria, Lybia, and in 4689 in Ireland, &c. In 4694 the rains deluged Italy, and pestilence followed it. In 4700 the same disease appeared in Constantinople, and in Scotland in 4707 and 4717, after severe seasons. In 4721 the winter was dreadful, killed men and beasts, and an immense army of Saracens, marching against Constantinople, perished with

hunger, cold and pestilence; and no less than 300,000 inhabitants of that city died of the plague. In 4728 at Constantinople; in 4733 at Norwich, in England; in 4736 in Syria, &c.

In the 4744th year of the world, another period of pestilence, marked with awful commotions and excesses in the operations of nature, commenced and continued till 5004, A. M.; tremendous earthquakes, long droughts, appearances of comets, disorders of the seasons, severities of the weather, the permeation of electric fire, the existence of myriads of venomous flies, locusts, worms and serpents, excessive rains and inundations, blastings and mildews, shooting of stars, transmission of meteors, death of animals, generation and destruction of insects, tempests of hot winds and sands, storms of cold wind and rains, fogs, and devastations of armies, &c. characterized the following period of dismal calamities, as they have done in all former ages of the world.

P. Diaconus, Baronius, Cedrenus, and Magdenburgh history mention a plague, which raged at Calabria in Naples, in 4749 and 50, A. M. and in Constantinople, and continued several succeeding years in the countries of the east. In Constantinople the living were unable to bury their dead; cart loads of dead bodies were thrown into cisterns, and into all places which concealed from public view; those who buried the corpses, were generally carried to their graves in the same day. Such was the universal waste of the citizens by the plague, that Constantine was induced to people the city with inhabitants from the vicinal countries. Disordered seasons produced that terrible pestilence, according to the relations of the abovementioned historians. Short mentions the prevalence of a fatal pestilence in Wales, in 4766, and over all England in 4775, A. M. which carried away, in Chichester alone, 34,000 persons. Plague

and famine raged in 4753 in France, and pervaded Scotland in 4788. And Lancisius and Bartianus in their annals relate the occurrence of a great plague in various places of the world, after an open, mild winter, in 4814, which destroyed almost all the horned cattle, especially in Germany.

The same historians mention a pestilence, that arose from excessive rains and cold damps, in 4821 and 24, and raged in all the dominions of Gaul: The crops failed from excess of moisture, and a famine ensued. The following winter was very severe, the Rhine and Danube continued in one solid body of ice all over for 30 days, and pestilential diseases ensued in spring, summer and autumn. The succeeding winter of 4827 was very severe; the snow lay on the ground for twenty-nine weeks, and occasioned the death of men and beasts; a long drought followed it in the summer of 4828, and a great hail fell and destroyed men and cattle. In 4854, A. M. a long and severe drought happened, and produced a grievous famine, that compelled men to live or feed on human flesh; and in 4857 a great pestilence happened in Scotland. In 4859, earthquakes and violent tempests, and in 4860 an earthquake and a tremendous inundation of the Tyber, and severe epidemic sore throats, anginas and quinsies, called plagues of the throat, or fauces, are mentioned by Baronius, Murator, Short, and Magdenburgh, to have followed, and a great part of the human species died. In 4867 a great plague raged in Scotland; in 4878 myriads of grasshoppers or locusts of a terrible size, with six feet and two teeth as hard as flint, appeared in Gaul, devoured every green thing, were driven into the British Channel by a great east wind, were washed on shore, putrefied on the beach and generated a pestilence, which, together with famine from heat, drought, cold, &c. destroyed the third part of the maritime inhabitants of Gaul.

In 4882 a mortal pestilence prevailed among cattle; dogs and birds, which at first collected about the dead carcasses, suddenly disappeared. In 4887 a famine afflicted Italy, and in 4888 a great plague raged at Oxford: in 4891 the winter was severe and long, and pestilence carried off almost all the cattle: in 4900 a mortal pestilence and famine, from intemperate seasons, occurred in Gaul, Germany, Italy, &c.: in 4926 a great pestilence happened in Scotland. In 4933 the winter was very severe, the Thames was frozen over for 13 weeks, a dreadful famine followed, and in 4941 a great pestilence, arising from excessive heat, drought and famine raged in England. In 4944 a pestilence among cattle: in 4958 a pestilence overspread the north of Europe, with great destruction, destroyed 40,000 persons in Scotland: in 4968 the Emperor Otho's army were almost all destroyed by it, famine and distempered seasons always preceding it: a malignant fever or plague existed in London in 4965, and a grievous famine happened in 4980; and in 4985 famine and plague destroyed the Lacedemonians: in 4991 inclement seasons caused dearth and plague, and malignant fevers, which prevailed in England among men, and the cattle died of fluxes: in 5000—1 an epidemic flux prevailed in England, and produced a great mortality.

The succeeding period of pestilence, famine, and destruction is distinguished by its extent, violence, and singular phenomena similar to the former periods.

In 5001 dreadful fluxes, burning agues, violent fevers, &c. were very mortal in England: in 5009 famine and plague began to rage, and continued for three years, all over the world, and more than one half of the human race perished: the living were fatigued in burying the dead; and many sickened during the interment of their relations, and being half dead were devolved in one general grave. In 5013 the earth was deluged with rains, and a plague began

among the Saxons ; also in 5016 the same disordered seasons and the same diseases happened among men ; and dreadful seasons and pestilences followed in 5019, 20, 21 and 24. In 5029 the summer was wet and cold, and the plague raged in England and other parts of Europe. In 5033 and 5035 pestilence pervaded Europe, especially England and Gaul, after tempestuous seasons, devastations of locusts, meteors, eruptions of volcanoes, intolerable vicissitudes of the weather, and famine. In 5041 a pestilence arose in England, and in the Emperor's army ; and in 5046 it snowed in harvest, it rained tempestuously during the year, the sea overwhelmed Flanders, and awful commotions of the elements announced the approach of famine and pestilence in England, Gaul, Germany, &c. and cattle and men were equally destroyed by them. In 5047 there was a severe winter, a tempestuous spring, a hot summer, and a pestilential autumn ; men and beasts perished in multitudes. In 5068—70 many hundred thousand Saracens and Scythians, marching to invade the empire of Rome, perished with pestilential diseases, as fluxes, fevers, inflammations, &c. In 5070 a great plague and famine swept away one half of the inhabitants of Egypt and Arabia. In 5072 the country from Durham to York, in England, was famished, people lived on cats, dogs, &c. and perished without a burial. In 5081 a plague and famine also raged with terrible violence in Constantinople. In 5080, 81, and 83, famine, pestilence and locusts invaded Italy, Russia, Flanders and England, from bad seasons and deadly weather. In 5091, 92 and 93, very rainy cold summers and excessive winters occurred in England, Gaul, and Germany, and the plague and famine raged in those countries. In 5100, 101, 104, 107 and 109, pestilence and famine happened from disordered seasons, excessive rains, terrible inundations, severe winters, inclement summers, tempestuous springs, pestilen-

tial changeable autumns, multitudes of worms, (*papiliones*) and violent hurricanes, in England, Palestine, and Holland where 100,000 persons were drowned by the inundation of the sea. In 5109 an erysipelatous epidemic fever and dearth raged in England, and destroyed myriads of people. In this pestilence the limbs of the sick were covered with black and livid spots like the carbuncles in plague. In 5111 and 12 severe diseases cut off multitudes of men and beasts. In May of 5113 a great snow storm, in June a dreadful tempest, in July great heat, in autumn severe pestilential fevers and fluxes occurred. In 5114—15 a severe and long drought in the summer, an inclement winter, spring and fall, and a terrible pestilence swept away men and beasts. In 5116 the rains destroyed all the fruits in England. In 5117 swarms of locusts devoured all vegetation about Jerusalem, and in 5129 overran Judea; a severe winter followed, and a great drought in the summer, and men and beasts perished in great multitudes by famine and pestilence. In 5124 a severe winter destroyed all the vines and trees, a cold spring prevented all vegetation, the summer was excessively wet, famine and pestilence followed in Gaul, Brabant, Italy, England, Germany, &c. during the years 5124, 25 and 26. Erysipelas also raged in England, and it was computed that a third part of men perished in those years of pestilence. In 5130, 31 and 32, a destructive pestilence among beasts happened in England. From 5137 to 50, long droughts, terrible tempests, tremendous disorders of the elements, dismal darkness, cloudiness, electric fires, pestilence and famine, raged these twelve years with incredible severity and fatality among men and beasts. From the year 5154 to 5173 severe winters, very dry or wet summers, earthquakes, inundations, great winds and storms, hot or cold seasons, famine and pestilence, and destruction by floods, swept the world, especially England, Scotland, Ireland, Italy, Sicily, Gaul,

Asia, Egypt, Judea, Africa, &c. as usual in other periods of mortality. In 5176 England was thinned of her inhabitants by an universal dysentery. In 5178 an epidemic catarrh or cough, which the ancients used to rank among the general epidemics, as well as small pox, measles, influenza, scarlet fever, quinsies, general pleurisies, and all other common and universal diseases. From 5179 to 5197 the seasons were constituted in similar forms, sometimes hot and dry summers, sometimes cold and wet, severe winters, desolations of locusts, long droughts or excessive rains, horrible tempests, earthquakes and inundations, which induced famine and pestilence in all countries where their influence extended. In 5187 and 88 pestilential diseases scourged England, and a plague visited Rome. In 5197 and 98 excessive rains destroyed the grain, produced dearth, and a pestilence swept all England with the besom of destruction, so that there were scarcely sufficient persons left to inter the dead; the usual forms of burial were neglected, and the dead bodies were piled into deep and wide trenches; a severely cold winter stopped the progress of this burning fever. The winter of 5204 was cold; the summer of 5205 was very rainy, and the winter of 5206 was extremely severe, and these bad seasons produced a famine and sickness.

The years 5214, 15, 16, 17 and 24, were marked by common seasons and diseases, excepting Italy, where the plague scarcely left a tenth part of the inhabitants, and in Damietta, where three persons out of 70,000 only survived, as some authors assert in reference to its extreme fatality. In 5225 excessive rains, floods, frosts, and inclement heats induced a famine and a pestilence, which almost desolated the whole of Europe; in some countries the living were exhausted with burying the dead, and in some cities scarcely a person survived the terrible destruction.

The summer of 5226 was excessively dry, frost and deep.

snow in April destroyed the blossoms of the fruits, the autumn was deluged with rains and swept with tempestuous winds, and the plague raged with uncontrollable fury in Germany, Hungary, Gaul, Egypt, and other countries, among men and domestic animals. The winter of 5229 was rigorous, following the great drought of 5228, a dearth ensued, and a great mortality among sheep.

In 5232 the great rains and heat in summer, followed by a severe winter, excessively hot autumns, and cloudy weather, produced fatal diseases, and the inundation of Friesland demolished towns and villages, and destroyed 100,000 lives; the inundation of the Tyber drowned the lower city of Rome, rising even to the stairs of St. Peter's church. July and August were excessively hot, and in 5234 famine and pestilence commenced, and continued even till 5239, and wasted the population of England, Gaul, Italy, Denmark, &c.; 20,000 starved in England; worms and locusts had devoured all the fruits of the earth. The winter of 5240 was open and rainy, the summer of 5241 was excessively dry, autumn was very sultry, and distressing and burning agues severely afflicted their inhabitants. In 5243 pestilence also raged, and famine compelled many persons to eat human flesh.

In 5244, A. M. the fishes of the sea died on the coast of England, excessive seasons prevailed, and pestilential diseases appeared; the winter was severe, snow very deep, and cattle perished. In 5246 excessive rains swelled the Thames and inundated the country about Lambeth, and 5247—8 were remarkable for continued droughts, meteors and deadly pestilence: in 5251 a fatal plague occurred in England during September. In 5254 the summer was rainy and tempestuous, and a hard winter followed it; the summer of 5255 was intolerably hot, and epidemic diseases traversed the country with uncommon mortality. In 5256

the frost late in spring, succeeding long drought, destroyed all the fruits of the earth; July was deluged with great rains; at Michaelmas the plague began to rage in London, and pervaded all England, continuing till August following, which is an instance of this disease beginning in Autumn and running through the winter, and terminating in summer. The winter of 5258 was severely cold, a murrain among sheep, and a mortal disease of horses, called the "*Evil of the Tongue*." In 5259—5262 the tides arose uncommonly high, the rivers swelled with excessive rains, tempests levelled buildings, the summers deluged the earth with rains, the crops failed by the destroying power of the elements, and dearth, famine and pestilence made havoc among the inhabitants of England; 15,000 persons perished in London alone by hunger. To this series of wet seasons long droughts succeeded, and mortality continued, even to 5265. In 5268 pestilential diseases swept away horses and cattle. In 5270 swarms of Palmer worms destroyed all the vegetables in Scotland. In 5273 excessive seasons existed; the plague destroyed the Crusaders on their march to the Holy Land, and the French king and his son perished by it. In 5278 a grievous rot among sheep commenced, and continued 25 or 28 years, destroying almost all the sheep of England.

In all the years from 5281 to 5344, similar seasons, inundations, dearths, famines, pestilence and death, reigned at different times and in different places among the inhabitants of Britain, Poland, Denmark, Prussia, Spain, Zealand, Italy, Egypt, Germany, Bohemia, and other parts of the world. In 5320 a pestilential dysentery with great fever, which, like the true plague, scarcely left survivors to bury the dead, raged in England; famine also prevailed, from incessant rains and desolating seasons: wheat sold at 40 shillings per quarter, equivalent to 30% sterling in those

days; horses were considered delicious food, and a destructive murrain swept away all the domestic animals. O terrible times! dismal calamities! horrid destruction of the animal creation! While we explore the annals of the world, and behold such calamities and annihilation of all living beings on the face of the earth, our hearts are led to deplore the lot of man, and say with Homer of old, "Go, I pray, consult the prophet, or the priest, or the interpreter of dreams, who may tell, why the anger of heaven so intensely burns?" But as this is the great business of the faithful interpreter of Providence, it will be my province to unfold the natural and visible causes of those direful calamities and miseries, which in all parts of the earth, and in all ages of the world, have been so destructive to the human species, as well as to the brute creation. In exploring the chronicles of kingdoms, the annals of man, the histories of the world, as we have partly done in our preceding lucubrations, we find all the causes of every occurrence, mutation, circumstance and phenomenon of the natural and moral worlds, whence all diseases, human miseries and calamities proceed, in order and succession; and the more we traverse the records of antiquity, the more clearly we understand them, and the greater desire we entertain for discovering all the mysterious operations of nature in the production of diseases; but as we proceed to examine the histories of subsequent ages, we expect to enjoy the clearer lights of more full and accurate records to illumine our paths from the great dawn of arts and sciences in those ages of the world.

The year 5344 A.M. begins a period of pestilences and famines the most distressing that ever the world saw. The pestilence commenced in Cathay, China; in 5350 appeared in Egypt, Syria, Grecia, Asia and Africa, in 5351 raged in Italy, Sicily, &c., in 5352 desolated the south of Gaul,

Spain and England, in 5353 existed in Ireland, Holland, and England, in 5354 traversed all Germany, Hungary, Gaul, &c. in summer, autumn, winter and spring. A hot air, cloudy and moist atmosphere, earthquakes, meteors, excessive rains, humid weather, and southerly winds, continued for several years, and a malignant peripneumony prevailed all over Europe, China, Asia, Egypt, &c. Myriads of unusual and loathsome insects, young serpents, large vermin with tails and eight short legs appeared; the symptoms of the plague in England and other countries were, violent affections in the head and stomach, buboes and other glandular swellings, which were infallible signs of the disease, small swellings like pimples or blisters, usually a great fever, a vomiting or spitting of blood, hemorrhages from the mouth, nose, ears, eyes and bowels, indicating a universal and sudden disorganization of the system. The patients commonly died in three days, or even the first and second day of the disease, which distinguished the virulence of it, killing in about half the time that bilious plagues usually do. The peripneumony appeared to consist in a burning fever, insatiable thirst, a black tongue, anxiety and pains about the heart, short breath, a cough, expectoration of mixed matter, open mouth, raging delirium, furious madness, red, turbid and black urine, restlessness, watchfulness, black eruptions, anthraxes, buboes, and corroding or gangrenous ulcers over the whole body. The disease terminated fatally the fourth or fifth day. The blood was black and thick, or greenish and watery, or even yellow; venesection was certain death. The disease baffled all medical skill;—the only remedies that appeared to relieve were laxatives early administered, cupping and scarifications, leeches applied to the piles; and inwardly infusions of mild diaphoretic attenuant and pectoral vegetables. Indeed, pleurisies and peripneumonies formed the different

modifications of those diseases, in those periods of pestilence. So fatal were the plague and other diseases, that two thirds of the inhabitants perished. In some cities nine out of every ten died, and in some places the desolation was total. In London, 50,000 dead bodies were interred in one grave yard. In Venice 100,000 died—in Lubec 90,000—in Florence 90,000—and in Spain two-thirds of the people were destroyed. In 5354 a great part of the lower orders of society in England died of the plague—in Denmark the disease spread terror and despair—and desolated Iceland : it was called the *sorte diod*—*black death* : in 5352 the Greenland merchants died of it. It seized the monks and regular clergy of all descriptions ; 133 members died of one society in Montpelier out of 140—the same in the Magdalen society—not one survived of 140 in Marseilles—66 Carmelites perished in Avignon ;—this plague began in a monastery of crowded, lazy, idle, filthy, sottish and voluptuous monks. The same causes and phenomena appeared to produce this fatal epidemic, as earthquakes, insects in millions, frequent abortions, the death of fishes, the destruction of animals, &c.—5000 sheep died in one pasture in England—the air and waters were all infected, so that the fowls as well as the fishes died in great multitudes. During a truce between France and England a plague began, and continued seven years. The malady in France was of two kinds, says Guido ; the first preceded the second two months, and was a fever with spitting of blood, and all died in three days.—The second was a continued fever, with carbuncles on the body, and abscesses in the glands ; and the patients generally died in five days. This kind of fever always precedes plague, and indeed it is one and the same disease in a milder modification. In 5356 violent seasons, rains and winds, &c. produced famine and pestilence ; 900,000 persons perished in China by famine ; great drought pre-

ceded those excessively rainy seasons, severe winters, and devastations of locusts in Africa, Cyprus, &c. in 5358; and in 5359 an epidemic madness afflicted all England. In 5362 severe seasons happened; in 5363 a plague followed, and wasted Italy and Florence, which last city, says Petrarch, lost 100,000 citizens, even all of them to ten individuals: childbed women and cattle suffered greatly. The same pestilence also afflicted Gaul, England, Ireland, Scotland, &c.

In 5367 a dreadful winter presaged noxious seasons and diseases. In 5369 rains prevailed, and pestilence carried off 20,000 persons in Cologne and the neighbourhood. In 5372 to 74 another dreadful plague, the third one which ravaged England, Ireland, &c. occurred. An epidemic madness prevailed in France, England, Italy and Gaul, in 5378. In 5383—86, a pestilence prevailed in England, Gaul, Italy, Germany, Ireland, Greece, Egypt, and all the East; Lubec again experienced a loss of 90,000 inhabitants. In those years provisions were cheap, seasons very rainy, and no winds refreshed the earth. In 5392—93 a great drought, violent tempests, &c. occurred, and anginas prevailed among children in England, plagues, dysenteries and compound inflammations reigned throughout the whole world till 5404, and was especially mortal in England; in 5405 it dispeopled Florence; 30,000 persons died in London; the summer of 5410 was close, moist and sultry, southerly winds prevailed, and it again visited London; in 5415 a severe dysentery destroyed 14,000 people in Bordeaux; it also raged in Aquitain and Gascoigne.

The summer of 5430 was excessively hot, earthquakes demolished 20 cities in Catalonia. In 5431 the seasons were rainy, the winter especially mild and open; dearth and famine followed; plague existed in Dantzic, epidemics raged in England, and the plague in the following year.

In 5440—52 the seasons were rainy, tempestuous, and severe; a dearth of corn, and a series of epidemic coughs, smallpox, fevers and fluxes swept away many thousands of the human race. From the year 5447 to 54 the seasons were very severe, and famine and pestilence carried off millions of the human species in Italy, Gaul, Germany, Spain, Asia, &c. The plague sometimes began in July and raged six months. Egypt, Smyrna, Constantinople, Rome, Aleppo, &c. are exposed to the powerful causes of annual pestilences, and they annually appear more or less, as diseases do in all countries under the canopy of heaven.

In 5469 pestilence again visited Italy. In 5472 a deadly plague raged in Parma. In 5475 a rigorous and stormy winter; in 5477 a most excessive heat and drought of three years continuation; the trees took fire, and the rivers dried up; the Danube was fordable in Hungary. In 5479—80 enormous swarms of locusts devoured the vegetation of Hungary and Poland; in 5482 ravaged Italy, and the plague invaded England. In 5484 a severe winter, and hot summer produced pestilence in Italy, Germany, and in 5486 an epidemic pleurisy in Italy. In 5488 the winter was severe; in 5489 a mortal pestilence of a peculiar nature, called the *Sudor Anglicus* or *sweating sickness*, appeared in England, Ireland, Germany, Sweden, Holland, Denmark, Egypt, &c. John Kage or Caius, a cotemporary physician, speaks of “*novum pestilentiaë genus*,” the symptoms of this new kind of pestilence, which were, a sudden sensation of heat like a hot vapour running through the parts affected; to this succeeded internal heat, unquenchable thirst, and profuse sweating, and often carried off the patients in two or three hours; the attack generally finished in 15 hours, and in 24 hours the patients were out of danger. It was most deadly to persons in good health and easy conditions of life. It was also attended

with most symptoms of the plague, as anxiety, restlessness, violent pains in the head, delirium or stupor, or excessive drowsiness.

In the 15th century, the differences of weather and seasons changed the appearance of the plague into a bilious remittent or intermittent fever, accompanied with the most profuse sweatings; the skin was inundated with torrents of sweat, the viscera were dried, and the heat, which dissipated the fluids, disordered the whole animal constitution. It commenced in 5489 and ended in 5600, when the disease again assumed its usual form of buboes, carbuncles, pimples, parched dryness of the skin, excessive delirium or coma, violent pains in the head, bowels, stomach, lungs, sides, &c. In 5500 an epidemic leprosy prevailed in Germany, which covered the body with ulcers from head to foot. In 5504 hard seasons occurred, and pestilence raged after a dry summer and dearth, and a season of abundance of provisions. During this pestilential period, Portugal, Ireland, all Europe, Asia, Egypt, Africa, &c. suffered by it in some of its forms.

The next great pestilential period which we now proceed to record, commenced in 5504 A. M. and finished in 5604 A. M. During this 15th century, an excessively severe winter happened in 5505, and was succeeded by a very hot and dry summer, in 5506, and in autumn the plague carried off 500 persons daily in Brussels; the city was abandoned, grass grew on the streets, and house tops were covered with moss. In 5508 China was almost desolated by it, and Ireland also suffered by the malady. In 5509 a severe winter and a similar summer existed, (only the summer was hot and moist,) and pestilential diseases of every description prevailed all over the world. Fatal spotted fevers overspread Europe; the plague was in Lisbon; and sweating sickness in London. In 5513 the plague al-

most depopulated Constantinople. In 5514 an universal catarrh and an influenza pervaded all Europe, called in France *Cocoluche*, from the practice of covering the patient's head with a cap; a series of moist seasons varied the pestilence into various epidemic diseases, which preceded and succeeded them. Mark the differences of seasons constituting the different modifications of disease. In 5515 a plague, and 5517 a malignant dysentery prevailed in Verona, in which bleeding was pernicious, and cupping and cautery were said to be useful. In 5518 cats perished by the common epidemic diseases; the plague was in Tournay; mortal murrain raged among the domestic animals of England. In 5519 a malignant catarrh or sore throat disordered the people of Holland; it seized persons suddenly, and if not cured immediately, it fell on the lungs, and killed them in the first day of its invasion. We may easily conjecture the nature of the seasons in those years, by the nature of the prevalent diseases; cold, open, wet, raw and chilling winters, summers and autumns certainly existed, to produce such diseases. In 5521, however, a severe winter preceded a hot dry summer and autumn; corn was abundant, the sweating pestilence raged among men, especially in London, and a malignant murrain swept away cattle, dogs, ravens, &c.; these carnivorous animals that lived on the carcasses of the gramnivorious beasts, swelled and died. In the spring of the year inflammations of the throat preceded this sweating disease, so violent as to extinguish life in a few hours; its malignity was never equalled in modern times; it killed as suddenly as it did in Holland in 5519. In the beginning of summer it changed into the sweating plague, augmented in violence in autumn, and carried off one half of the people of England. The disease of the throat was inflammatory, and bleeding and purging were the only successful remedies. In 5522 plague visited

Lisbon, and sweating pestilence raged in Brabant. In 5524 a severe winter occurred, inundations destroyed 100,000 persons in 72 villages; the summer was inclement, autumn sickly, and spring tempestuous; England suffered by famine and diseases; Ireland was also visited with the plague which raged on the continent of Europe. In 5528—9 deadly fevers prevailed in London, and the wetness of the summer in 5531 destroyed the grain; a severe famine ensued, and thousands were starved to death. In 5532 spotted fevers, corresponding to the nature of the seasons, prevailed all over Europe, and degenerated into pestilence in autumn; sweating sickness consumed the population of London and Cork, terminating in death in six hours: the plague also raged in Italy.

In 5533 this sweating pestilence, which I believe to have been the violent remittent and intermittent fever, raged in Amsterdam, existing also in all other places which lay within the influence of the same kind of seasons. In 5535 it is recorded to have raged in Germany, and pestilences in some forms became universal, exactly corresponding to the particular constitution of the seasons in the different places of its appearance. In 5536 a petechial or spotted fever was preceded by a mild open winter and southerly rainy weather, together with inundations in the spring, and obscure darkness of the heavens. This spotted fever of the summer generally precedes the great pestilence in the autumn, which shows that the same causes in different degrees of virulence produce both diseases, as well as involve the idea of their similarity of nature. In 5538 plague visited Narbonne, raged in Cork in 5539, and in 5542—3 a mortal dysentery prevailed over all Europe. The summers preceding these distempers were very moist, autumns cold and variable, and acute fevers, accompanied with violent pain about the heart, delirium, moist black tongue, an-

thraces and buboes, were previously epidemic ; and the plague raged in Constantinople and Egypt, &c. The drought was excessive in Ireland ; the river Lee was nearly dried up ; and this drought prevailed the next summer, 5540, and England suffered by a pestilential ague (which we had conjectured the *sweating disease* to be,) and dreadful and mortally epidemic fluxes. In 5545 plague visited Constantinople ; the year 5547 was very wet and cold ; cattle perished in great numbers ; plague raged in Geneva and London in winter in the same year, and prevailed all over Europe ; a pestilential epidemic, called "*Troup Gal-lant*," which seized the young and robust, equal in mortality to the same plague of Egypt, in the days of Moses, that destroyed the young or first-born of the Egyptians, the symptoms of which were a violent pain in the head, heat and burning in the reins, universal lassitude, continual watchings ending in phrensy or drowsiness and lethargy, worms rising in the throat, with a suffocating sensation : bleeding was the only remedy, then detergent cordials ; the disease generally terminated in 4 or 5, 6 or 7, 8 or 9, 10 or 12 days. In 5561 pestilence raged all over Europe, especially in England, Holland, Germany, &c. This modification of pestilence was distinguished, as the *Troup Gal-lant*, by great affection of the brain, whose symptoms were a most intolerable pain in the head, swollen and fiery eyes, bloody tongue, difficult respiration, a fetid breath, frequent vomitings of bilious matter, livour of the body, pimples of a blackish hue appearing on the skin, with worms in them, as the accurate historian Thuanus describes the disease. In 5552—3 pestilences and peripneumonies, accompanied with spitting of blood and difficulty of breathing, &c. prevailed in England, Portugal, Prussia, &c. In 5554—7 the summers were very rainy and winters dry, the earth was deluged with rains or parched with drought :

an epidemic catarrh raged in France ; sweating sickness in England ; plague in Misena, where patients discharged blood from the pores of the body for three days before death ; the same disease raged in Paris, and epidemic pestilences prevailed all over Europe, especially in Hungary, Transylvania, &c. for two years, and suspended the operations of war. In 5559 the summer was excessively rainy, and fevers raged mortally in England and France, and continued with double violence and mortality during the succeeding dry summer, and spotted fevers and malignant small-pox, &c. added to the calamities. Excessive commotions and severe seasons marked this period.

In 5511 a cold rainy winter and boisterous spring, a wet summer and a cold autumn, produced epidemic catarrhs, which extended to all places under the influence of such seasons :—the cough was very severe, accompanied with pains in the side, difficulty of breathing, and violent fever. In the first and second day of the disease bleeding was successful, but later in the disease it was fatal ; 2000 patients died in Madrid by venesection. In Alemar this same epidemic assumed the appearance of a sore throat ; 2000 persons were instantaneously seized in October ; 200 died—a fetid vapour and thick clouds, and wet and damp seasons produced it.

In 5560 a plague existed at Vienna ; in 5561 it raged in Holland, and in June traversed the country ; 5000 poor died in Delph, and it continued all winter even till May, 5562. In that summer, pestilential fevers, in which bleeding and purging were fatal, raged in France, Holland, and other places, and assumed the petechial or spotted forms in Spain, and proved as mortal as the common plague. In Florence and Tuscany, the same diseases raged. In 5562 the summer was excessively hot, and winter intensely cold. Dysenteries raged in France, agues in Holland, principally

affecting the rich and affluent, in all their malignities. In 5564—7 there was a dearth of corn in England; a plague among the English soldiers in N. Haven, in France, and in London where 20,000 of its inhabitants were destroyed by it.—It raged all over Europe at the same time, especially in Frankfort, Magdenburgh, Hamburgh, Dantzic, Wismar, Lubec, and Bostack—300,000 persons perished in the last of these four years.—Summer and winter, spring and autumn, equally kept up the disease. In 5568 epidemic quin-sies were very mortal; spotted fevers, plagues and anginæ malignæ, spread over Europe. In 5569 France was afflicted with pestilential epidemics, in which bleeding was said to be fatal: it appeared in Lyons—Charles IX. demanded of the physicians the best mode of treatment, and they all decided against venesection—one fourth of the inhabitants of France perished. In 5570 the spring was rainy and autumn dry and cold; and a horrible fever destroyed many thousands of the emperor Maximilian's army, and of all parts of Europe. The disease began about 3 P. M. with slight chilliness and shivering for fifteen minutes, then an intense heat, intolerable pain of the head, mouth and stomach, so that the slightest touch of the bed clothes caused the sick to utter shrieks of pain; the thirst was unquenchable; the tongue was dry and lips chopped; delirium came on the third day; a critical looseness and deafness were favourable; frequent swellings behind the ears, tubercles on the tops of the feet, spots like flea-bites appeared on the body, livid or black blotches prognosticated death. Copious bleedings on the first day, immediately after their invasion, was of all remedies the most successful. In 5571 the winter was very severe, and the summer very dry and hot; and spotted fever raged in Paris, attended with a great prostration of strength, which was supposed to render bleeding fatal, and raged all over Europe for three years; a dreadful

pestilence originated from it, and prevailed the three or four following years.

In 5574 and 75 the summers were moist and warm, the winters were very rigorous, and fluxes, measles, worms, agues, epilepsies, palsies, malignant fevers, plagues, &c. raged in all parts of the world subjected to the influence of those seasons: 400,000 people were drowned in Holland, by an inundation of the sea breaking down the dikes. In Poland the plague, in Basle a malignant fever raged, and proved fatal, particularly to men of robust constitutions. In 5578 petechial fevers covered all Europe, and spread dreadful mortality in Spain, Italy and London, during September, October, November, &c. In 5579—80 a plague commenced and continued all over Europe for three years, raging with terrible desolation, visiting Verona, Venice, Trent, Africa, Levant, London, Egypt, &c. Two eminent physicians of Padua, Mercuriale of Forli, and Copavacca of Padua, asserted the disease not to be pestilential or contagious, and undertook to cure it. The senate listened to the two foreigners as to the nature of the distemper, but it raged terribly, and carried off 70,000 of the citizens, with 57 valuable physicians and surgeons. The two foreign physicians were dismissed with applauses for preferring the welfare of Venice to their own personal safety. Similar controversies have agitated the professors of medicine in these latter times, and bespoke their ignorance of the nature of the disease; but we cannot misunderstand its causes, nature, progress, appearance, and cure, if we consider the disease impartially without being influenced by systems, doctrines, principles or opinions of men respecting them; and if we believe in this infallible certainty, that all those plagues, pestilences, fevers, measles, smallpox, sore throats, catarrhs, scarlet fevers, agues, and all acute epidemic diseases, consist in inflammation of some particular organs

or viscera as the basis of their being and existence, in all their manifold symptoms ; in short, whether the disease assumes the appearance of an ague, a bilious remittent, a typhus or spotted fever, measles, smallpox, malignant sore throats, plague, pestilence, quinsies, dysenteries, inflammations of the viscera, or any other epidemic distemper, we can easily recognize them, and be able to estimate the relative nature and violence of the existing causes, constituting all the different modifications of one and the same disease, in the different regions, places and climates of the earth. In those years pestilence raged terribly in Padua, Milan, Cremona, Pavia and Vincenza, and carried off many hundred thousands of the human species. Multitudes of flies and beetles swarmed in England ; in November, 5585, most terrible tempests occurred, comets appeared, volcanic eruptions and earthquakes happened, as they did in all previous violent seasons ; which meteors and comets, &c. we have passed over as irrelevant to our subject ; we only mention those states and conditions of the air and constitution of the seasons that immediately produce diseases, omitting all the prodigious events of volcanoes, earthquakes, sinking of cities and countries, rising of islands and mountains, awful inundations of the ocean and rivers, occurrence of famines, appearance of noisome insects and animals, terrible commotions of the elements, excepting what are deemed the efficient causes of diseases, and circumstances therewith connected. During this period of ten years of pestilences and famines, all Europe and Asia were wasted, and lost one third or one half of their inhabitants. In Moravia, a disease unknown to the oldest inhabitants, appeared ; and sudden death seized the court and attendants at Oxford assizes in England, early in July, while the court sat. There arose such a damp among the people that almost all were smothered—very few escaped being taken, at

that instant—the jurors died immediately, then Robert Bell, the lord chief baron. Three hundred persons died in Oxford, and 200 died elsewhere who sickened there from the 6th to the 12th of July; no other person died in the place. These persons were suffocated or destroyed with bad air or the want of pure air, in that crowded court room, just as the soldiers in the dungeon at Calcutta perished in one night, and as persons die in damp and deep wells, or are destroyed with fumes of charcoal.

In 5583 the summer was very moist and rainy, succeeded by a cold dry north wind about the rising of the dog star; the winter was open and chilling; an epidemic catarrh pervaded all Europe; in June it began in Sicily; in July it existed in Italy; in August it raged in Venice and Constantinople; in September it infested Hungary, Bohemia and Saxony; in October it prevailed on the Baltic, in November it appeared in Norway; in December it ravaged Sweden, Poland and Russia, &c. Its symptoms were a violent fever for four or five days, with pains in the head, straitness of the breast, a severe cough, terminating in profuse sweating. Bleeding and purging, says Reverius, were considered injurious in general. In Rome 4000 persons died of it; in Lubec 8000; in Hamburgh 3000; and great multitudes in other places perished by epidemic pestilence. While this deadly catarrh wasted Europe, one of the most destructive plagues ever known began in Grand Cairo. Prosper Alpinus, who lived in that century, has reported the number of deaths from November 5584 to July 5585, to have been 500,000. It has been always observed by us, that epidemic anginas, quinsies, smallpox, measles, catarrhs, and fevers, generally precede great and dreadful plagues, as their precursors; for the constitution of the seasons to produce these diseases being continued and increased in its natural or accidental malignancy and powers, will always

induce pestilence or plague, as the highest gradation of morbidity in all these distempers which appear to be the same in essence, but different in appearance, only modified by the differences of climate, differences of the seasons, and the differences of the duration and energy of the efficient causes. It carried off in the same year many hundred thousand persons of the poorer class of the population of France and Egypt; it prevailed especially at Laon in Vermandois, which is much exposed to the burning heat of the sun, and destroyed 6000 persons. The historian Thuanus relates that the crops of that year were plentiful, and the sky serene, but he does not tell us the duration of the drought, the gradation of heat, the suddenness of the changes of temperature, the heat of the days and the cold dampness of the night. The catarrh in those days was distinguished by a chill, or rigour in the lower portion of the spine, which was succeeded by gravedo or dull pain in the head, languor, universal dejection of spirits, and diminution of strength; and when it did not end favourably in five days, it terminated in a fatal fever.

In 5587 the plague again began to rage in London, in Germany or Holland, and in Egypt, and Rome was afflicted with famine. In 5589, malignant pleurisiæ appeared in spring; plague raged during summer, autumn, and winter, in Hungary, Austria, Turkey, &c.; and in 5590 locusts devoured all vegetation in Thrace. In 5591 the spring was very cold, crops were plentiful, the autumn was insalubrious; plague, famine and wars raged in Flanders, and almost depopulated the country; the wild beasts possessed the houses in many parts, dogs ran mad, and the fields were covered with weeds and bushes; and the catarrh appeared to be general in England. In 5594 the winter was severe, the summer was very dry and hot, and famine ensued; an universal catarrh and a general pestilence followed, and

pervaded all Europe; and the plague even occurred in Narva and Revel in Livonia on the Gulf of Finland in the 59th degree of north latitude, and prevailed all the succeeding winter—6000 persons died in Revel—the great Thuanus considered the disease to have arisen either from the incommodities of war, or the inclemency of the air; “*a belli incommoditatibus sive cœli inclementia;*” he never imagined any foreign origin. In the same year the spotted fever raged in Trent, a famine caused great mortality in Italy, and a plague, consisting of the following symptoms, followed it:—a fever seized the head, induced delirium, flux and flatulence; it terminated fatally about the 20th day: bleeding was the great remedy, according to Sims, and “*secta vena capitis, quæ in brachio est, aliisque a capite manantibus,*” says Thuanus. It attacked men between 30 and 50 years of age; but seldom infected the women: it raged in Umbria, Tuscany, Romagne, Lombardy, &c. sweeping away in some towns almost every man, and from August to August 60,000 were computed to have perished.

In 5596 the drought in England during the summer was extreme, the autumn was sultry and changeable; the Thames was fordable at London, the plague raged in it, and destroyed 18,000 citizens; appeared in Shropshire, and a petechial pestilence carried off almost all the nobles of Florence; a direful pestilence also pervaded Candia; commencing in spring and ending in July; it again appeared in September, October and November, and destroyed in all 20,000 inhabitants. On its first appearance they carried all infected persons to a distant hospital, but no benefit arose from that policy. It originated from surrounding causes in the diurnal and nocturnal air, weather or season. So useless and pernicious are the quarantines, that not one single individual less will fall by the disease, yea, I believe that many more will die of it by these pernicious regulations.

In 5598—600 severe winters and rainy seasons prevailed in England, Germany, Hungary, &c.; the crops failed, famine ensued, and a malignant fever or pestilence followed in sable destruction. This pestilential fever was attended with convulsions, raving madness, or delirium; sometimes, however, the convulsions were present without much fever; the patients were contracted into knots by the violence of the convulsions, or extended in full length like a dead body; sometimes the extension of their bodies was succeeded by a contraction in the same paroxysm, which I believe were tetanic spasms; and in 5601 an epidemic catarrh appeared, and malignant fevers, accompanied with worms in youth, prevailed in many countries; dearth occurred in England from severe and destructive weather.

In 5602—3 the summers were excessively dry; the heat produced swarms of fleas; flies and gnats abounded in the end of summer. Agues with petechial spots and continued fever were frequent, yielding to bleeding and purging, and vanishing with a bilious diarrhoea; the smallpox and measles also became epidemic, and a distressing plague seemed to swallow them all in autumn, in one universal combination of violence, malignity and destruction, in London, Litchfield, Leicester, &c. Kendal lost 2500, Richmond lost 2200, Carlisle lost 1196, and Percrith lost 2266 inhabitants, as Camden relates. Pegu in Asia was depopulated by famine; Constantinople was almost destroyed by plague; seventeen princesses, sisters of the sultan Mohammed III. died in one day. Cannons were fired, and aromatics were burned in all parts of the city to arrest the progress of contagion, but all in vain; it raged till a change of weather prevented its occurrence. The spring of 5603 was cold and dry, the summer hot and rainy, with great floods; autumn was sultry, and a mortal distemper swept away the cattle in Italy; the plague killed 70,000 of the inhabitants

of Lisbon and Spain, and a fatal dysentery prevailed in many cold, low and damp situations.

In 5604 A. M. a remarkable period of pestilence commenced to ruin the health and happiness of the human race. A pestilential and mortal colic raged through all Europe, and destroyed the lives of all whom it seized in four days. The patients as soon as they were seized became senseless; the hair fell off their heads; livid pustules appeared on the nose and consumed it; the extremities became cold, and mortified. The winter was intensely cold, the summer was very hot, and a drought of four or five months distinguished the season; a violent dysentery, double agues, continued fevers, universally prevailed in almost all parts of Europe. The plague, attended with black worms, raged in Portugal. In 5606 the summer and winter were cold and dry; catarrhs and acute fevers epidemically scourged the human race; a great famine prevailed for a series of many years, exceeding in extent and severity all famines ever recorded in history. The crops failed for several years successively, and plagues and pestilences reigned in all parts of Europe. In Muscovy the famine and plague raged for three years; parents devoured their own children; cats, rats, and all unclean animals and things were used to sustain their lives. All the ties of nature and social affection were done away; human flesh was exposed for sale on the shambles in the markets!! The more powerful seized their neighbours, fathers and mothers took their children, husbands their wives, and offered them for sale!! Multitudes of dead bodies were found with straw in their mouths and all kinds of filthy substances!! Five hundred thousand persons died of famine and pestilence in Muscovy. Famine and the cold winter in Livonia destroyed 30,000 lives; their dead carcases lay unburied in the streets for want of living men to bury them. In 5607 A. M. 36,000 perished in London by

the plague ; at the same time there was a dearth of provisions. Yet the people, and physicians at their head, supposed this plague to be imported into London ; and although the nation had all the causes of it before their eyes, they ascribed the plague to contagion communicated from persons to persons, and from clothes to persons. If they had plainly considered the extent of its ravages over all Europe, the time of its appearance at the same hour in different parts and distant regions of the earth, the nature of its causes in the seasons and weather, they could never have attributed it to any foreign contagion ; but if men are determined to shut their eyes they will lose the benefits and blessings of the light of day ; so if they are determined to shut their minds against all truth and free investigation, holding fast their old errors, prejudices and prepossessions, in the face of all the demonstrative evidences in the world, there is an end to all certainty, all accuracy, all experience, all observation, all improvement, all success, and all perfection in the profession of medicine and surgery ; and our profession would become a trade of eternal experiments and probation, full of uncertainties, mischances, failures and frustrations, which would render it worse than an infamous lottery. This plague, meanwhile, carried off 2000 persons every week in Paris, and physicians attributed it to diet and filth ; it raged in London for three or four years, carrying off two to four thousand persons annually.

In 5611—12 great agitations of the elements occurred, and severe pestilences immediately followed, as the natural consequence of them. The winter was the severest ever known ; the other seasons were very inclement. The severity of this winter extended to all America, as was discovered by George Popham and a company of emigrants, under the patent of king James to the London merchants, attempting to settle at Sagadahoc, in 5611. Inundating

rains prevailed in England, and overwhelmed the country near Bristol, in Somersetshire, and in Northfolk.

We have hitherto selected our information from European histories on this important subject, because we have no accounts of the climate and diseases of America in our histories previous to the landing of our ancestors in Sagadahoc, when the settlement of a colony, and their fate, began to occupy the pages of British history ; but we shall have opportunities of adducing facts and evidences from the annals of America, of the universality of the causes of pestilential distempers, that cannot be overturned by the most obstinate and invidious persons in existence. George Popham and a company of daring adventurers, under the imaginary right of possession by the patent of king James to the London merchants, attempted to settle at Sagadahoc, in 5611 ; but Popham, their president, died in the winter ; and the extreme cold, sickness, opposition and famine compelled them to abandon the settlement, as Gorges, Purchas and Hutchinson, in their histories of New-England and Massachusetts, have related respecting this unfortunate adventure. In the same year, the plague augmented in London ; raged in Alemar and Denmark, and was mortal in Cork. The influences of that pestilential season were experienced on the ocean ; for people on board the fleet under Sir Thomas Gates and Sir George Somers, bound to Virginia, were seized with the calenture and spotted pestilent fever, which, in one of the ships, became so malignant as to be equal to the plague, and 32 dead bodies were thrown out of two of the ships. Was this distemper imported ? or was it produced by the season in close confined ships, and the tremendous storm of four days continuance which they met with, and which wrecked Sir T. Gates on Bermuda ? In 5614 an epidemic catarrh arose from cold wet winters and dry summers, in Spain, and other countries ; the plague, and bilious fevers

under the appellation of Hungarian fever, prevailed in various parts of the world. In 5615 the plague carried off 200,000 of the inhabitants of Constantinople, and raged in other parts of Europe; all arising from the extremely hot and dry summers. In 5616 a tremendous tempest destroyed almost all the ships at sea—the dead bodies of 2000 sailors were washed on the shores of England, and 1200 on the coast of Holland; towns were injured; a province in the dominion of France was inundated; swarms of locusts arose from the heat following, and destroyed the vegetable kingdom. The summer in England was also very dry and hot, and a malignant fever greatly afflicted the nation in autumn.

In 5617 the plague appeared in various parts of France; a malignant fever, accompanied with red livid spots, swellings behind the ears, and carbuncles, proved very fatal to the inhabitants of Montpellier; one third of those whom it invaded, says Reverius, died of it. It raged also at Constantinople, and the physicians supposing the cats to spread the contagion, advised the emperor Achmet I. to transport them to the desert island of Scutari. This general pestilence arose from the sudden change of the seasons from hot and dry to cold and moist, &c. In 5618 the winter was very severe, the summer cold and wet, the autumn changeable, and the most fatal smallpox ever known was universal, laying waste Alexandria, Crete, Turkey, Calabria, Italy, Venice, Dalmatia, France, Germany, Poland, Flanders, England, Persia, Asia, &c.; and in some places the measles accompanied it. The mortality of the natural pox at that period, equalled the plague in its worst forms. In 5619 the seasons were cold and unpleasant; in 5620—the summer was very hot and dry, with cold damp nights; and epidemic agues raged in Germany, and all other low countries.

In 5622 violent tempests, inundations, hurricanes, volcanic eruptions, meteors, &c. distinguished this pestilential season ; a malignant angina prevailed at Naples ; the plague infested Bergen, Norway, Denmark, Egypt, Levant, &c. ; and the terrible yellow pestilence swept away many thousands of the American Indians, previous to the arrival of our ancestors in Massachusetts ; for Captain Dermer, a British adventurer, who had arrived in America in a fishing vessel a year or two before, wintered in this same year in Manhiggan, an Indian town on the northern coast ; and in the following summer, on the 19th of May, sailed along the coast, on his way to Virginia, landed at several places where he had visited in a former voyage, and found many Indian villages totally depopulated ; in others a few Indians alive, still labouring under the consequences of the fatal epidemic pestilence, who informed him of the yellow plague that destroyed them. In this distemper spots and sores appeared on their bodies, as well as yellowness of the skin. Indeed, Richard Vines and his adventuring companions, who were sent by Ferdinando Gorges to explore the country, which was not their own, wintered among those Indians, during the prevalence of that pestilence, untouched by it. Elder Cushman, at Plymouth, in 5624, after the arrival of the colony, in the epistle dedicatory of his sermon, published in London, dated 21st December, 5625, has these words : “ They (meaning the Indians) were very much wasted of late years, by a great mortality that fell among them, three years since, which, with their own civil dissensions and bloody wars, hath so wasted them, that I think the twentieth person is scarce left alive.” Prince, in his chronology, fixes the time of this plague in 5622, corresponding with Capt. Dermer’s account of it. This distemper continued a number of years, raging principally in winter ; for when the Plymouth colonists went to Massachusetts (or Boston)

in 5626 to buy corn of the native Indians, they found a great sickness among them, very like the plague of Europe, if not the same, and observed that it affected the Indians only. So fatal was this plague in America, that the warriors, from Narragansett to Penobscott, were reduced from 9000 to a few hundreds. Hutchinson says, the Massachusetts tribe of 30,000 were reduced to 300 men; and our ancestors found the whole land covered with the bones of those who had perished, unburied on the surface of the ground. The Indians described it as a pestilential putrid fever, often attended with yellowness of the body, pains, coughs, hemorrhages from the nose, vomiting, looseness, &c. This pestilence never was imported from any other country, neither could be; for no ship passed from any part of the world to this new continent till 20 years after its prevalence among the Indians; and we must conclude, that the disease was the endemic distemper of the country. Gorges says, that the disease occurred in summer and autumn for several years, commencing in 5621 and ending in 5627. In these same years malignant sore throats broke out in the kingdom of Naples; plagues, smallpox and inflammations raged in England, Hungary along the Rhine, France at Montpelier, &c. The summer of 5624 was very wet in England; the spring of 5626 in New-England was excessively dry from May till the middle of July; and in 5627—9 epidemic diseases prevailed all over Europe in the form of a spotted fever. The plague carried off 35,000 of the citizens of London, and also prevailed in Italy, Denmark, Spain, Egypt, &c.

In 5630 the summer was very hot, and the autumn was sultry and changeable; and the plague continued its ravages in Europe; Lyons lost 60,000 of its inhabitants; France and other countries suffered in the two following years. In 5633 pestilence raged in Amsterdam, and America; in 5634 it prevailed in Cambridge in England, and in Vienna; in

5635—6 an erysipelatous fever with inflammation of the jaws, appeared in Europe. In 5631 the winter in America was mild and open, southerly winds prevailed till the close of it, when great snows fell, and a malignant fever raged in Halifax in England, among the colonists at Plymouth in America, and the Indians from Narragansett to Connecticut river, were swept away in great numbers by the natural pox. The summer of this year was sultry and moist; myriads of flies of the size of bees, which made the woods resound with a humming noise, appeared in the air, and malignant fevers, eruptive distempers, &c. prevailed in Europe and America, in the various forms of measles, smallpox, plagues, anginas, catarrhs, quinsies, &c. In 5638 the plague infested Ratisbon; in 5639 it destroyed 20,000 of the inhabitants of Leyden; it appeared also at Virginia, Rome, Mentz, and other parts of Germany; and in 5640 it raged in London, Nimeguen and Egypt, &c. This general plague was preceded by its common precursors, smallpox, measles, obstinate dysenteries, spotted fevers, &c. which all terminated in the real pestilential plague in spring, summer and autumn. The summers of 5640—1 were warm, the winds blew constantly from the south and west, with very sultry breezes, says Diemerbroek, and the plague ravaged Holland, Denmark, Constantinople, Natola, &c. The summer of 5642 was very hot and dry in England and America, after a severe winter and spring. A tremendous earthquake destroyed 30,000 lives in Calabria; tempests of the most violent kind and vast extent occurred; the autumn was rainy and cold, and smallpox and malignant fevers prevailed in America.

In 5643 the spring in America was very dry, the summer hot, and autumn sultry and variable, and diseases began to rage during these seasons; the plague continued to afflict the inhabitants of London, without intermission, from

5640 to 5652, A. M. In 5644 the winter was hard, the spring cold and wet, the summer and autumn hot and sultry, and epidemic pleurisies raged in the cold, and malignant fevers in the hot seasons of the year, in England, America, and other countries. In 5645 the summer was remarkably wet and cold, the corn perished, worms were generated in the human stomach and bowels by the bad grain; the bilious plague prevailed partially in America; the succeeding winter was extremely severe, and the spring of 5646 was early and wet, the summer and autumn were very sickly on the banks of the Delaware, New-Haven, &c. and diseases destroyed almost all the settlers in those parts. In 5647 the wetness of the weather produced a dearth at Boston in the spring; myriads of pigeons injured the grain in summer, mice devoured the grain and bark of trees in Massachusetts; malignant fevers raged in England during summer, and in autumn became pestilential in its symptoms; very few escaped its ravages. In 5648 a malignant fever was epidemic in Denmark. The summer of 5649 was excessively hot, accompanied with cold showers and cold dews in the night, and a general dysentery prevailed with great fatality in England; and for a series of years a great mortality was observed in Britain. In the same year the American Indians of Martha's Vineyard were almost all carried off by some great pestilence. Inundations of Holland, Friesland, Zealand, &c.; earthquakes, appearances of comets, and ravages of locusts were tremendous in 5650—2 in both worlds; the plague raged in London; an epidemic catarrh or influenza pervaded America in spring, and equally affected the natives and English, French, Dutch and Swiss colonists. This distemper began like a common cold, attended with a slight fever. All persons who were bled, died, says some inaccurate observer; all patients who used cordials and strengthening medicines, recovered. It

extended through all the plantations in America and West Indies ; 12,000 persons died of it in Barbadoes and St. Kitts ; the summer was very hot and dry, the autumn very sultry and variable, and malignant fevers prevailed in Connecticut, West Indies, &c. In 5653 the plague was in London, Ireland, Shropshire, and France, and carried off 200,000 persons in the southern provinces of Spain, and an epidemic smallpox raged at Boston.

In 5654 the winter was open and the spring cold and wet, and an influenza spread over all Europe ; it was succeeded by a general plague in the hot summer and autumn, in the form of inflammatory fever in France, ague in Denmark, &c. The two years following were very dry and cold in England, and in 5658 the plague began to rage in Denmark, and an epidemic catarrh, &c. prevailed in New-England in this and the following year. It began about the end of June, and affected all persons severely ; few were able to visit their relations, or pay their last respects to them at any distance. The causes of this affection were cold damp seasons, or chilling and changeable weather. Snow storms happened in April, and on the 19th of that month a severe frost was experienced in Europe ; tempests of wind and hail took place in England ; and the plague appeared at Chester in England, raged in Turkey, Presburg, Hungary, Russia, Denmark, Italy, Egypt, Sardinia, Malta, Leyden, Amsterdam, Riga, &c. ; 200,000 persons died in Moscow, 9000 in Riga, 13,200 in Amsterdam, 13,000 in Leyden, &c. In 5660 the same plague destroyed 240,000 lives in Naples, 9000 in Benevento, 10,000 in Rome, 10,000 in Genoa, 400,000 in the Neapolitan territories, and 8200 in Thorn. In 5660 the summer was also hot and rainy, the autumn cold and moist, and pestilential catarrhs prevailed in New-England, as most fatal epidemic distempers, catarrhs, quinsies, anginas, and typhus fevers generally

preceded the plague. The summer of 5661 in England was hot, the succeeding winter was severe, and in the spring of 5662 an epidemic catarrh pervaded all Europe; the summer was hot, and autumn sultry and changeable, and epidemic malignant fevers appeared in both hemispheres. In 5663 the spring was cold and wet, the summer hot, autumn sultry and variable, and croup raged in the moist, bilious disorders in the hot, and malignant fevers prevailed in the cold changeable season. Great sickness, says the historian, took place in 5664 in England, France and America, from tempestuous seasons, and continued for a series of years. In 5666 a great drought happened in England; the rivers and springs were dried up; the waters tasted of sulphur in Canada; a malignant fever carried off 60,000 of the Venetians; in 5667 swarms of small worms covered their territories; a great mortality among cattle and sheep, by diseases of their livers, in England: small worms seemed to prey upon their livers, lungs, bowels, &c. All diseases of men assumed new violence and prepared for a general and mortal plague, says the great Sydenham; the plague actually appeared in Heusden in Holland; the winter was open and mild, and in the summer of 5668 a malignant purple fever afflicted Prussia, attended with inflammation and tumours of the throat, which was fatal to the young of both sexes. This summer in England was very wet, and cattle died of diseases: a mildew destroyed all the grain of New-England, so totally as to render it impossible to raise it on the Atlantic coast in the three eastern states; the winter following was terribly severe in England, and inflammatory fevers and quinsies, says Sydenham, were more frequent in London than were ever known. During summer, in May, a malignant fever, which could not be distinguished from the plague, prevailed, and in June began to swallow up all the other epidemic distempers. In 5669, 68,000

persons died of it in London, and 28,000 of other distempers, previous to the prevalence of the plague in autumn. The summer of this year was temperate, the weather pleasant, and plenty of fruits and provisions; but the preceding years were characterized by pestilential seasons, and the spring and summer of the same year opened with general epidemic distempers, which showed the progression of the pestilential period. Indeed the plagues began to rage in various countries in 5667, arrived at their height of violence in 5669, and immediately after the conflagration of London turned into a malignant dysentery, from the cold damp nights, hail and rains in autumn, after a very hot summer, which prevailed over all England and other parts of Europe, and in St. Domingo. It is an important fact, that measles, smallpox, catarrhs, agues and malignant pestilences, are commonly succeeded by fluxes of the most fatal order. In the same year great sickness, as the smallpox, measles, catarrhs and fevers, also afflicted America. In 5672 the summer was very hot, and the malignant yellow pestilence appeared in the cities of America; especially in New-York, where the epidemic was most fatal. In 5673 the winter was severe, the summer also excessively hot, and autumn changeable, with cold, damp nocturnal dews; the cats died of an eruption on the head, and drowsiness, in Westphalia; a mortal fever, with a sore mouth and slimy tongue, prevailed in England; malignant measles attacked old and young in Norway; measles, alternating with smallpox, prevailed in England. In 5677 the winter was cold, and the summer rainy, and catarrhs and spotted fevers raged all over Europe.

In 5679 the summer was also cold and wet, the autumn chilling and moist, and influenzas or catarrhs pervaded Europe. The summer of 5680 was cold, measles and smallpox prevailed in England, and in 5681 the smallpox killed

thousands of the inhabitants of Charlestown, Mass. &c. In 5682 the summer was hot and dry, the autumn cold and wet, and general affections of the throat swept the north of Europe; the plague desolated Algiers and Morocco, and millions of people perished; smallpox again visited Boston; and a singular epidemic ravaged England, France, Holland, &c. The seasons of America were very inclement, blasted all the fruits, and produced hosts of diseases, which destroyed its inhabitants. The winter was very severe, after a rainy autumn, and an epidemic catarrh and peripneumony raged in many places. In 5683 the plague visited Vienna. In 5684 the winter was severe, the summer very hot, autumn cold, and pestilences appeared in Dresden, &c. The summer of 5685 was excessively dry and hot; flashes of fire pierced the air; volcanoes raged; convulsions shook the earth; the smell of sulphur sickened the inhabitants of Italy, and a mortal angina maligna, which killed the cattle of Italy, Switzerland, Germany and Poland, in 24 hours, universally prevailed. In Halle in Saxony, the plague, and in Dublin a petechial brain fever, in which bleeding was pernicious, afflicted their inhabitants.

The winter of 5687—8 was the coldest ever remembered by the oldest men living, in Europe and America; the summer was very rainy, the autumn cold, and a great sickness prevailed in both continents. The Hungarian fever prevailed in Leyden, and pestilential diseases in other parts of the world; this fever consisted of a severe chill, followed by a ravenous appetite, and a great heat succeeded by loss of it. In 5688—9 the summers were very hot and dry, grasshoppers overran Languedoc in France, autumns were cold and wet, and malignant fluxes and fevers prevailed in Europe and America. The summer of 5691 in Europe was very rainy; the winter and summer of 5692 were cold, and an epidemic catarrh, pleurisies and dysenteries, per-

vaded Europe and America. This catarrh was preceded by the same epidemic among horses, attended with a great defluxion of rheumy matter from the nose; and swarms of flies and other insects announced the deadliness of the season. In 5693 the summer was warm, the autumn rainy, and spotted fevers prevailed in Germany, and smallpox in Boston. The summer of 5694 was rainy, frogs were multiplied in great abundance in Italy, and corn was mildewed in America and many other places. The year 5695 was distinguished by a cold winter, a hot and dry summer, a cold, wet autumn, and spotted fevers, wherein bleeding was fatal, prevailed in Italy, and a great mortality also existed among the cattle and sheep, &c. On the 7th of June 5696 a continuance of dry, hot, calm and sultry weather took place; a dreadful earthquake sunk the city of Port Royal in Jamaica, and drowned 2000 citizens; the musquetoës were generated in vast swarms, and the bilious malignant yellow fever carried off 3000 of the islanders; it began in Barbadoes, and afflicted the island for many years. The spotted fever continued its ravages, and malignant fevers, smallpox, measles, madness, melancholies, lethargies, and deliria, universally prevailed in all countries, where the inclemencies of those seasons existed. In 5598 the summer was very cold and wet, the corn was mildewed, and spotted fevers, dysenteries and gangrene of sores proved fatal to many in Europe and America. An epidemic catarrh raged among men and horses in Europe.

The winter was mild and open in America; the seamen and soldiers under the command of Sir Francis Wheeler, who was sent to conquer Martinico, were seized with the bilious plague of America, and three fourths of them perished by it; the same disease raged in Boston, New-York, &c.; and it appears in the annals of history, that the summer of 5698 was excessively hot and dry in Italy, Sicily,

Calabria, America, &c. and apoplexies and bilious fevers raged. In 5699 a great sickness afflicted the American Indians on the eastern shores ; a malignant fever raged in Bermuda ; measles, chincoughs, and pestilential fevers traversed Europe. The summer of 5700 was cold and wet, the winter hot and dry, the seasons were reversed, the corn was mildewed, and a fatal dysentery swept away the children. In the same and following winter and spring, an epidemic catarrh and fever raged in many towns in England and America, especially in Fairfield, Connecticut, and Dover in New-Hampshire, &c. : and in Charleston, Philadelphia, &c. yellow plague prevailed. Indeed in 5703 the most deadly yellow fever raged in these two cities, that ever afflicted the Anglo-Americans, and was considered the same as the Barbadoes distemper. The summer of this year was excessively hot ; men died of the heat in the fields ; all business of the city was suspended ; 90 of the society of Friends died of the disease ; the patients voided blood by vomiting and by stool ; 150 died in Charleston in a few days, and the survivors fled into the country ; the sea inundated and drowned the town ; a fire laid most of it in ashes ; smallpox destroyed their youths ; and, to consummate the calamity, the bilious yellow pestilence swept away the principal officers of government, members of the assembly, multitudes of the citizens, and almost annihilated the settlement. The plague raged in Egypt and the Levant. A fatal catarrh was epidemic in England and France in spring, carried off the young, robust, and hard drinkers, and killed the horses. In 5704 a pestilential sore throat raged in the island of Milo, in the Levant, and north of Europe, followed by measles, smallpox, and malignant fevers.

In the seven last years of this century famines prevailed in Scotland, Finland and America, produced by the cold wet summers ; and we have said nothing about the plagues

of Egypt, &c. for the want of historical materials, but the seasons being the same, we do not hesitate to say, that the diseases must be the same in every given year. I have also passed over many awful events of volcanoes, inundations, hurricanes, wars, meteors, comets, appearances of flies and insects, locusts and frogs, serpents, and death of fishes, vultures, animals, &c. which happened in consequence of the conditions of the atmosphere and commotions of the elements, and seem to be produced by the same causes that induce the distempers of men and beasts.

In 5705 the plague afflicted the inhabitants of Toulon, the Levant, Augsburg, Dresden, Egypt, &c.; and in 5706—7 the smallpox and scarlet fever ravaged Boston, and other parts of the country, in June, August, September, October, December, January and February, accompanied with a most malignant fever. In this year the drought was extreme, and the autumn was sultry, with cold night damps, north winds and showers, and the bilious plague appeared in New-York, and became more fatal than at any former period, and was called “the great sickness.” The winter of this year was variable and severe with intervals of warm weather; the spring wet and cold, the summer and autumn warm, which produced catarrhs, fevers, fluxes, &c. The summer of 5708 was very dry and hot, and malignant spotted fever raged in Augsburg and Prussia, flies were generated in great abundance, and tempests, inundations and hurricanes pervaded the world. In 5711 coughs, coryzas, fluxes and fevers, prevailed in the variable seasons of this sickly period. In November, 5712, a severe and an universal catarrh, followed by a series of mortal pestilences, overspread all Europe and America. Lancisius describes it as it appeared at Rome in Italy;—It began with a running at the nose, rheumata and slight cough, attended with pains in the breast, angina, pleurisies, and peripneumonies in

the spring ; a lassitude, chills and flushes, wandering pains in the breast, a continual cough, hard pulse, red or turbid urine, spitting of blood, difficulty of breathing, redness of the cheeks, and general yellowness of the body. The poor and labouring men suffered most by it. Many recovered by means of sweats, by hemorrhage from the nose, by copious discharges from the bowels, by copious evacuations of urine, and by other evacuations, accompanied by a copious expectoration of thick phlegm. Venesection was beneficial, especially in robust constitutions. On dissections the *precordia*, or the stomach, breast, and hypochondriac regions appeared of a deep red colour, extending to the diaphragm, discoloured by gangrenous spots, &c. In this hot, moist summer, myriads of gnats appeared. The winter killed all the fruit trees and vines, and after the excessive cold multitudes of persons died in apoplexies ; many were seized with phrensies, vertigoes, arthritics, pleurisies, inflammations, fevers and consumptions. The plague raged in Dantzic, Copenhagen, and desolated Livonia ; in 5714 appeared in Sweden ; carried off 30,000 persons in Stockholm, and sweating sickness destroyed many hundred thousand lives in that kingdom ; pestilence ravaged Lithuania ; and the troops under Gen. Nicholson, destined to co-operate with the fleet of England in the reduction of Canada, encamped near Wood creek in the province of New-York, in July and August were afflicted with a great distemper. The preceding year a catarrhal fever prevailed in France, England, and the Low Countries, called the *Dunkirk rant*, and a spotted fever raged at Norwich and many other places.

In 5726 the seasons in England were cold and wet, and catarrhs, sore throats, peripneumonies, pleurisies, quinsies, fevers, &c. appeared ; the corn was mildewed to rottenness ; a mortal distemper like the putrid pleurisy, raged at Waterbury in Connecticut, and many other parts of America.

A sore throat, with dizziness and pains in the limbs, prevailed in London; and measles in America the following year. These two years the plague was epidemic in Vienna, Hungary, Stiria and the East, preceded by a spotted fever, and swarms of insects. Cattle, horses and sheep suffered by the same diseases. In 5718 a series of warm summers commenced, and cattle began to perish in England; the smallpox and measles were epidemic among men in 5719, and a malignant disease raged in America. In 5721 the winter was very severe, and most of the old persons of the land died of peripneumonies. In Europe a catarrh was prevalent, a malignant smallpox among children, and a plague appeared in Turkey. In 5722 the winter was cold, and the summer was hot in England, and the plague advanced; and in the following year malignant fevers spread over all Europe. The winter of 5723—4 was cold, and malignant pleurisies raged in Hartford with great mortality; and the plague carried off 80,000 people in Aleppo; a great plague raged in Marseilles; the causes of this plague were the great heat of spring, followed by excessive rains and west winds; the corn, wine, oil, fruits, &c. were deficient by the seasons. Thomas Hacket of Duck Creek, states, that the plague, equal to that of London in 5669, had almost depopulated the village. A dreadful dysentery raged the following year in Upper Saxony. In 5726 the seasons were cold and rainy in America; the winter cold and dry in England; tempests and inundations happened; and the confluent smallpox raged mortally; dysenteries, pleurisies, inflammations and fevers prevailed in the different seasons; bilious plague in Barbadoes, Martinico; the burning ague in Rhode Island, and other places. The seasons of 5728—31 were cold and wet, and whooping-coughs, inflammations, fevers, &c. prevailed in both worlds. Great sickness prevailed in Europe and America by the common

distempers as well as malignant fevers. In 5732 the summer in America was very dry and hot, and the bilious plague raged in Charleston. The seasons of 5733 produced universal catarrhs, measles, pleurisies, peripneumonies, fevers, smallpox, &c. all over the globe, especially in Poland, Austria, Silesia, Aleppo, England and America. The great pestilence of America appeared in its sable dress of black vomit and yellow skin at Carthagena, South America, and made dreadful havoc among the crews of the ships under Don Domingo Justiniani, and of the Galleons under Lopez Pintado, in 5734; the plague was in Cyprus; the measles, smallpox, sore throats, inflammations, catarrhs, &c. raged in Holland and America in the two following years. The plague prevailed at Tripoli, Sidon, Damascus, Charleston, S. C. and Bourbon Island, Aleppo; scarlet fever at Edinburgh; and chincough in England.

In 5739 the summer was very wet and cold, and a slow putrid fever commenced in Europe; and anginous fevers, quinsies, smallpox, hydrophobia, spotted fevers, measles, peripneumonies and ulcers of the throat, prevailed for several years in Europe and America. The wet, cold seasons in America nearly exterminated the children by a distemper in the throat. The plague destroyed its tens of thousands in Egypt—10,000 persons died in the day in Cairo, and a fatal dysentery raged in Nimeguen. The cold, wet seasons produced influenzas, slow fevers, glandular swellings, measles, sorethroats, inflammations, smallpox, hooping-cough, &c. in France, England, America, Scotland, Barbadoes, New Spain, Ireland, Holland, &c. annually, for a series of years, even till 5744, when a change of seasons altered the complexions of the diseases in all countries of the world; for pestilential fevers and fluxes began to arise from hot summers and variable autumns, and to prevail in Aleppo, Calabria, Reggio, Messina, New-York, Holliston, Mass.

Boston, Louisburg, Charleston, Albany, Bethlem, Hartford, Woodberry, Philadelphia, among the Mohegan Indians, at Guayaquil, in Switzerland, Saxony, France, England, Ireland, Egypt, Smyrna, Fez, Tangiers, &c., for ten years.

In 5754—5, the winter was severe in America; the plague destroyed 200,000 of the inhabitants of Constantinople; dysentery raged mortally at Hartford and New-Haven; in England, the season was wet and cold, and a mortal distemper carried off the domestic animals; 30,000 cows died in Cheshire alone; a dysentery and ulcerous sore throat were fatal in Guildford. The summer of 5756, in America, was intensely hot; the thermometer, for twenty successive days, varied between 90 and 100 degrees; apoplexies (or rather insolutions) were numerous, and dysentery raged in the northern states. In 5757, the summer was dry, autumn close and foggy, and an epidemic fever began to prevail in Normandy; peripneumonies and inflammations of the heart in France and America; gangrenous sore throat in Ireland and England; and intermittent fevers in Maryland. In 5758, '59, '60, the winters of America were mild, open, and moist; Portugal had three or four years of excessively dry seasons, with their usual consequences; catarrhs and anginas prevailed in America during the mild seasons, and appeared in France and England; a petechial fever ravaged Ireland, and the plague carried off 150,000 of the inhabitants of Constantinople. In 5760—1, the winter in Syria was severe; the fruit trees were all destroyed; people perished with cold; the crops failed in the inclement summer; dearth and famine ensued, parents devoured their own children, and husbands offered their wives for sale in market to procure food!

In 5760—1, an universal catarrh was prevalent in America; in 5762—3, it traversed all Europe; the plague began to rage in Smyrna, Egypt, Cyprus and Syria; small-

pox appeared in Copenhagen ; measles and dysentery affected America ; the plague prevailed at Aleppo, Jerusalem, Damascus, &c. Cyprus lost 30,000 inhabitants. The summers of those years were dry, the autumns wet, the springs tempestuous, and the winters open and insalubrious. The horses in London and its vicinity perished by a mortal distemper ; the yellow plague swept the West India islands, with symptoms of uncommon malignity, says the famous Lind ; inflammatory fevers began to prevail in America, commonly called the "*winter fever*," which was extremely violent, terminating in death in three or four days, sometimes proving fatal in one day. I am of opinion that this disease was an inflammation of the viscera of the chest. It affected the inhabitants of Bethlem, North Haven, East Haven, New-Haven, Carolinas, Hartford, Conn. Philadelphia, &c. The characteristics of this disease were thickness and siziness of the blood, hemorrhages from the nose, mouth, eyes, and delirium, pains in the chest, difficult respiration, great debility, dry skin, &c. A free use of the lancet by some, was deemed necessary in the early stages of the distemper, but many physicians were opposed to bleeding, and their patients all died. So much for the wisdom and skill of physicians ! In 5765, a severe catarrh, or influenza, pervaded the northern parts of America, in the spring ; changed into the malignant fever in summer and autumn ; spread over the West Indies ; and was lost in the bilious pestilence in South Carolina. The symptoms of this disease were a slight cold, followed by a prostration of strength, a cough, laborious breathing, obtuse pains in the chest, præcordia and limbs, an expectoration of thin, slimy matter, and, as the disease advanced, the respiration and expectoration became more difficult, the matter more viscid, the lungs oppressed with tenacious matter, and the patient sunk in suffocation. The disorder carried marks of

bilious distemper; the countenances of the patients were yellow; insensibility, or coma, or delirium occurred, and the disease often assumed the form of the real bilious plague, in summer and autumn. In 5766, the same disease or catarrh affected all Europe. In America, the heat and drought exceeded all the seasons ever known. No rain fell from June to the 22d of September; the spings were dried up; people were distressed for want of water; the trees of the forest died, and the bilious malignant plague raged in autumn, in Philadelphia, Havanna, Bengal, Siam, Syria, Egypt, &c.; and the influence of the same seasons was felt in England, Ireland, France, &c. The summer of 5767 was moist and sultry, and the Indians of Nantucket and Martha's Vineyard were swept away by the bilious plague, in autumn and winter. An epidemic catarrh killed the horses in Denmark; a pestilence swept away the dogs in Madrid—900 perished in a day: the poultry died in Genoa; horses and swine became victims to it in Italy; mules and horses perished in France; sheep, horses, and horned cattle were destroyed in Sweden, &c., which manifested the pestilential state of the atmosphere and seasons; proving fatal first to animals, and then approaching towards men: for in the next year, 5768, a malignant fever affected Naples, preceded by famine; 200,000 persons died of it. The season was very hot; the bilious plague raged in Cadiz; malignant fluxes followed, in 5769—70, in Switzerland, Suabia, Austria, Scotland, America, &c.; exhibiting the symptoms of the yellow pestilence of America, in summer and autumn; turned again into dysenteries, assumed the form of pleurisy and peripneumony in winter, and became intermittent agues in low, damp situations, in Georgia, Pennsylvania, &c. The summer of 5770 was very hot and dry, in Europe and America; grain was scarce in both continents: the following winter was terribly severe in both hemispheres; the

mercury fell to 20° below 0 ; dreadful commotions of the elements ensued in the winter and spring ; an epidemic catarrh desolated Europe ; the same distemper killed the horses in New-England and New-Jersey ; in 5772, vast multitudes of caterpillars devoured the grass in the fields of Northampton, Mass. ; this and the following summer were very hot and rainy ; the angina raged in Boston ; the smallpox, dysentery, hydrophobia, &c., prevailed in other parts, and in the island of Jamaica. In Holland, 30,000 head of cattle perished by a pestilence ; Rome was afflicted with a great sickness ; earthquakes, storms, rains, floods, devastations of locusts, and famine, &c., characterized 5774—5, and a mortal distemper killed almost all the foxes in America ; the crops failed in Sardinia, Holland, Flanders, England, &c. ; and an infectious distemper swept away 171,780 head of cattle in Holland. In Constantinople 1000 dead bodies were buried daily, during the prevalence of the plague ; 200,000 persons perished in Poland and Russia ; a famine, produced by drought and heat, destroyed an incredible number of lives in the Peninsula of the Ganges ; a bilious plague followed and carried off another million of them ; millions of worms overspread the land, and swarms of flies, generated by the heat, filled the air, &c. ; anginas and catarrhs prevailed in America ; 168,000 persons were carried off in Bohemia by pestilences ; 150,000 lives were lost in Canton river by a tempest ; pestilences raged among men and cattle in Europe ; the *black worm*, about an inch and a half in length, devoured the grass and corn in America. In 5776—7, an epidemic catarrh, croup and measles prevailed in America ; a mortal fever raged in some parts, followed by a severe dysentery ; a fatal fever and smallpox raged in Scotland ; and a plague destroyed 80,000 lives in Bassora. Malignant scarlet fever, in 5779, raged at Edinburgh and Philadelphia : in America a malignant sore throat

and fluxes, and in England an epidemic catarrh, prevailed. In the same year, the oats mildewed in Scotland, the wheat decayed in America, and an insect destroyed that grain, a bed of oysters perished in Wellfleet harbour, at Cape Cod, and the lobsters left York Island.

In 5780, the summer was very hot in America, in the southern and northern states rainy; a fatal dysentery raged over all the country, and was very destructive to the troops in New-York and at Ticonderoga—one half of 13,000 men were unfit for duty. This disease proceeded from damp weather and fatigue, in a sultry summer or autumn. The Mohawk Indians died of pestilence, in great multitudes. In 5781, measles and other distempers raged in America. In 5782, the summer was very hot in America, and fevers greatly prevailed. In Philadelphia the bilious yellow fever infested the citizens in summer and autumn, after the British army left the city. The plague was in Constantinople, and an epidemic angina in Manchester, Eng. In 5783, the winter was the severest ever known since 5745—the mercury fell 26 degrees below zero. In Glasgow it fell 46 degrees below 0. The spring was cool and dry, and catarrhs among children prevailed during that season. In 5784, the summer was very hot; the bilious remittent fever became epidemic in Philadelphia, attended with acute pains in the back, hips, neck, loins, limbs, vehement febrile action, &c., called the “break bone fever.” The thermometer rose to 102. The plague also appeared in Smyrna.

In 5785, an epidemic catarrh, or influenza, prevailed in the spring. It began with a severe pain in the head, prostration of strength, coldness and chilliness, pains in the side, hips, &c., resembling rheumatic pains, accompanied with a hoarseness, a troublesome cough, great expectoration, difficult respiration, and a considerable defluxion on the lungs. In some cases the disease terminated in seven or

eight days, sometimes in thirteen or fourteen ; it left a soreness and a weakness in the side, which continued for a long time. Venesection had little or no effect on the pain in the side—epispastics afforded relief: it seldom proved fatal immediately, but predisposed to fatal consumption. A malignant fever appeared in New-York and Philadelphia. In 5786, the summer was cold, tornadoes happened, with deluging rains, the latter part of the summer was excessively dry, all green things withered, the air was loaded with a dense, thick vapour, for some days, in September, in America. In 5787, a part of the summer was excessively hot in America ; no less than 30 persons died of coup de soleil, insolation, or apoplexy, in Philadelphia, which Dr. Rush imagined to be by drinking cold water, and administered laudanum. Many bilious and putrid fevers were the consequences of a hot season, and violent commotions of the elements. Scarlet fever also appeared in August, and became epidemic in September. The measles, in May, at Salem, the yellow fever in Baltimore, and canine madness, began to rage as an epidemic, and appeared in different towns of the country, for five years. The winters were severe, the springs wet and cold. In 5791, a malignant inflammation of the windpipe and throat, became epidemic in Massachusetts. The winter was severe, the summer tempestuous and rainy, and the autumn sultry and variable. In 5792, the heat of the summer rose to 103 in July, in New-York ; and the measles appeared there, and in Philadelphia, from November till March. In 5793, the spring was cold, and vegetation did not spring ; part of the summer was very hot ; for ten days in August, the heat was at 90 and 100 degrees: hydrophobia also existed in autumn. A great mortality took place among horses in Maryland ; the crops failed over the whole world, and famine and pestilence ensued. The fishes, especially the had-

docks, died on the coasts of Lapland and Norway. Thick darkness prevailed in America; on the 29th of October, and great disorders of the elements occurred, which began the severest period of sickness that is on record, all over the United States. The measles that occurred in the preceding year, was a prelude to a series of epidemic diseases which raged for thirty years. In this year, in autumn, the influenza, or epidemic catarrh, prevailed in New-York and Philadelphia, and rapidly affected the whole country, wherever the same condition of weather and atmosphere reached. It also traversed the barren wilderness and seized the Indians, attacked seamen far at sea, and raged through the western hemisphere, from the 15th to the 45th degree of north latitude. Scarlet fever also appeared, in Philadelphia, &c., to blend itself with this epidemic. These epidemics exhibited the predominant feature of all others succeeding them—the prevalence of bilious matter by vomiting and purging.

In 5794, the winter was very mild, there was little frost till February; much snow fell, but southerly winds blew it all away. In spring an epidemic catarrh followed this open wet winter, and it pervaded the whole land; plethoric persons suffered much by it, and consumptive persons became its victims. The spring and summer were rainy, and catarrhs raged, and measles appeared in autumn. In 5795, the winter commenced early, and was very severe, the spring and summer were dry and cold, and catarrhs raged with considerable mortality. Inflammations were abundant during winter; scarlatina and hooping-cough also infested the land. The black worm again appeared to destroy the grass and corn, were called caterpillars in Maryland, and were represented as walking in legions all in one direction. At the same time, the canker worm destroyed the fruit trees; all the orchards, for two years, were ravaged by them. Another distinct species of worm, called the *palmer worm*,

devoured the forests, and all species of wood became a prey to them. Wild pigeons swarmed in the land. This summer was very hot, the thermometer, in Salem, rose to 80° for fifty days, and to 90 for twelve days, and in other parts, from 90 to 102. The autumnal bilious remittent fever, or yellow fever or pestilence, began to rage in Philadelphia. Dr. Rush, that acute observer, perceived that the fever assumed an inflammatory diathesis in that season, and deemed it necessary to bleed two or three times. In most cases, the liver was affected, with all the symptoms of violent hepatitis. This is a most important fact in the annals of medicine, to prove my doctrine of the inflammatory nature of yellow fever, as I have described in the following pages. The yellow fever also appeared in New-York, in autumn, and carried off 200 persons in the southern parts of the city, which terribly alarmed the timid people. This was the commencement of a pestilential period, for the fevers of America began, from the excessive heat and sultry weather, to exhibit all the symptoms of violent tropical fevers; an unusual epidemic yellow fever raged in Grenada, and made dreadful havoc among the inhabitants of the island. The physicians laboured to trace the contagion from Africa, but all their endeavours were in vain; the fever was the effect of the existing constitution of the elements, or of the seasons, &c. The physicians in America soon imbibed this erroneous notion, and attempted to trace its origin to importation of the contagion, in opposition to the assertions of Rush and Miller. At the same time, a similar constitution of the seasons existed all over the world, and produced similar diseases; the bilious fever raged in Africa, the plague in Egypt, and the typhus in England.

In 1796, the winter was very severe; the spring very rainy in the southern states; the summer cold, till June, with northeast winds; in May and June locusts appeared

in the state of New-York, and devoured the grain ; the wheat insect continued its ravages, with great destruction to the crops, on Long Island, in Maryland, and north of the Elk Ridge. In July terrible tempests commenced, and a malignant fever began to rage in Charleston, carrying off the patients in three days, and producing a great mortality. A caterpillar destroyed all the lime trees in Philadelphia. A scarlatina anginosa became epidemic, and produced a great mortality in August, in New-York, and in Bethlem ; and sporadic yellow fever raged in the southern states. In 5797, the angina maligna, scarlatina, catarrh, croup, and ulcerous sore throat, raged in all parts of America, with uncommon violence and destruction. Dr. Manson, of New-Haven, describes it thus : “ a slight influenza, stinging pains in the jaws and limbs, soreness in the muscles of the neck, with a slight fever ;” namely, angina maligna. It raged with greater violence and mortality : out of 700 persons seized, in different places, 52 died during the month of January. It began in May, and prevailed till January.

Now let us consider the causes of such changes in the modifications of diseases. We observed that the spring of 5797 was very dry, the summer intensely hot, with rains and hail, the autumn very dry and cold ; and these diseases prevailed in some situations, agues in others, and fluxes in many places, with great mortality. A fatal dysentery swept away almost all the inhabitants of Georgetown, Coventry ; a nervous fever appeared in Fairfield ; a dreadful pestilence commenced in Philadelphia, and alarmed all the United States, spreading terror and dismay among the inhabitants. The diseases of the spring, as we have mentioned, were influenza, scarlatina, and bilious remittent fevers, which last gradually increased to its height in autumn, and swept away 4040 persons, in the course of four or five months. During this epidemic the weather was very sultry and dry,

with cold, dewy nights; which, in my opinion, produced the disease. A dreadful controversy arose in Philadelphia, relative to the origin of this pestilence, one party attempting to trace its contagion to infected vessels from the West Indies; the other ascribing its causes to the exhalations arising from damaged coffee and filthy streets; but I believe that both parties were involved in the most egregious errors that can be conceived; and all America has been agitated with the same controversy, ever since that period.

In 1798, the winter was uncommonly mild, the thermometer never fell below 15° above 0, in a northern exposure. The garden vegetables, and leaves of trees, were all destroyed by a severe frost on the 17th of May. The wheat, oats, flax, &c., in many places turned yellow, and the fruit was destroyed. This frost was preceded by a few very hot days, and succeeded by a series of rains and west winds. The summer was hot and rainy, and westerly winds prevailed. The hooping-cough prevailed in New-York, and scarlet fever in Connecticut, &c. Scarlet fevers also raged in the following year, during the spring, at Boston, throughout New-Hampshire and Massachusetts, and extended from New-York to Maine, a distance of four hundred miles. On the 10th of June the bilious pestilence made its appearance in New-Haven. Mrs. Gorham was the first victim, and she died on the 15th. The people were alarmed, an inquiry was made into the causes, and it was discovered, according to their erroneous suppositions, that Captain Truman had brought it from Martinico in his vessel, which lay by Mr. Austin's store, and near Mrs. Gorham's house. A chest of clothes, belonging to a seaman who died of fever in Martinico, was opened and inventoried by Mr. Austin, in the presence of Captain Truman, Henry Hubbard, and Polly Gorham; Mr. Hubbard and Mr. Austin were seized a few days after opening the chest, and died about the 20th; Polly Gor-

ham was seized on the 12th, and died on the 17th ; these circumstances appeared to be clear and decisive at that time, and completely deceived the people respecting the origin and causes of this distemper ; for Captain Truman, on affidavit before Alderman Furman, of New-York, at the request of Dr. Bailey, declared, that all the clothes worn by the seaman who died in Martinico, (note, on board,) were all wrapped in a blanket, with his body, and buried. Those inquirers forgot to consider the great causes of this epidemic ; the fatigue or constitution of its subjects, their particular habitations, their modes of living, and their accidental exposures ; they forgot to contemplate the great operations of nature, by the elements, in the production of all epidemic diseases. Mr. Austin went on business to New-York, he was exposed to great heat and fatigue, was seized with fever, and died. Mr. Hubbard, his clerk, went on business to Derby, was taken ill and died. If the people of New-Haven had attended to the nature of the season and the exposure of these men, previous to their seizure, they would have had some truth and certainty on their side, and would have concluded on the impossibility of escaping the pestilence ; for in the winter and spring preceding, the *anginosa scarlatina* prevailed ; in March a case of yellow fever, attended with the black vomit, occurred ; multitudes of caterpillars overrun the country ; the summer was very hot and dry ; great stench and nuisances in the town corrupted the air, and there can be no doubt that the plague arose from the condition of the elements, modified with great heat. Many persons were affected with the disease who had no communication with the sick at all. Here then I would aver, that every disease which occurs during the prevalence of yellow fever, and extinguishes it, must arise from the disordered state of the elements, or originate in exposures of its subjects ; and every yellow fever which is

thus extinguished by the prevalence of dysentery, or angina, originates in the condition of the atmosphere and seasons, because the constitution of the seasons favourable to the production of the one will never produce the other. This is a maxim which will stand the test of ages. Heat, drought and cold, produce yellow fever; cold and damp induce dysentery and angina in the summer and autumn. The yellow fever also raged in Baltimore.

In 5799, the winter was uncommonly mild, the spring cold and late, open and warm, the summer excessively hot, damp, rainy, sultry, and suffocating, and the south winds blew; the heavy rains were always followed by a humid, close, sultry air and calmness, no thunder or lightning happened, and no west winds blew to cool and refresh the languid bodies of men; the atmosphere was loaded with a dense vapour, the fruits perished on the trees, or fell to the ground covered with mould; sound potatoes, just brought from the market, rotted in the cellars in 36 hours, and the cabbages perished on the ground. This dense moisture penetrated into the innermost recesses of desks, bureaus, book cases, papers, clothes, chests, and under every covering; the walls of the houses were covered with a white mould, and required scraping or new paper. This state of the atmosphere killed all the flies and bred millions of mosquitoes; and the whole constitutes the pestilential constitution of the air exactly answering the description which Hippocrates has given of a pestilential state of the atmosphere, producing bilious yellow fevers. The moist, hot condition of the air, which breed mosquitoes and kills flies, and the hot and dry state, which breeds flies, and prevents mosquitoes, equally produce the disease in question, with the concurrence of cold, in sudden changes of weather. "In all the course of my life, I never experienced a state of air so debilitating and unfriendly to my spirits, as the autumnal

months of 1795," says professor Kemp, in his letter to Dr. Bailey on yellow fever. In Philadelphia, the bills of mortality exhibited double the usual number of deaths. In New-York, the bilious pestilence appeared, with all its concomitants. Dr. Treat, the health officer of the port, was the first victim to the disease, on the 29th of July. The causes, in my opinion, of Dr. Treat's disease, were, great fatigue in the sun, in an open boat, and his plethoric and full habit of body; which are sufficient to account for the malady. But fourteen days previous to the sickening of Dr. T., a man died in the hospital of the same disease, and Dr. Pitt Smith visited another person labouring under this disease, in the beginning of July, and all suppositions of its being imported in the brig Zephyr, from the West Indies, are for ever exploded. Indeed, those cases which occurred in the beginning of July, premonstrated a terrible pestilence in autumn, as the precursors of the epidemic that was to follow, on the approach of cold, damp nights, and the sudden prevalence of north winds, or cold rains. The disease, in New-York, prevailed in the hottest parts of the city, on the southeast side, where it is exposed to the burning sun, is close and confined, pervaded with noxious airs, and the houses crowded and open. About 750 died of the disease, of which number, five hundred were raw foreigners, lately arrived from Ireland, Scotland, and England; and we perceive the mortality was mostly among the unpitied and unattended strangers, who came to the country, to become victims to the heat of the climate. Four hundred and sixty-two belonged to the Roman Catholic congregation under the care of the Rev. Mr. O'Brien, almost all from Ireland, and but lately arrived in this country. The same pestilence appeared in Fairfield, Millriver, Norfolk, Sheffield, and all over the country. "The same fever, with all its malignant and uncontrollable symptoms, occurs every

year, in scattered instances, about the same season," says some old practitioner ; but in this pestilential year all the fevers, in every part of the country, assumed the bilious forms, and a great destruction was produced in all parts of the land. Measles, with petechiæ, vibices, bleedings, typhus, and pleurisies of the same kind, prevailed.

In 5800, the bilious fever again prevailed in New-York, and raged in all close, confined, dirty, and hot parts of the city, near the battery, and along the course of the East river. But many cases appeared in the most airy and salubrious parts of it. In August the same disease raged in Wilmington, and carried off 150 persons, together with a bilious dysentery that preceded it. It appeared in Charleston, Newburyport, Boston, and Philadelphia, and produced a considerable mortality, as Drs. Rosset, Warren and Rush attest. The summer and autumn of this year were extremely dry and hot. In 5801, the winter was severe, the summer cold and wet ; a distemper among the cats began, in June, to sweep away all those animals in Philadelphia, New-York, and all the cities and towns in the United States, during the summer. I conceive this disease of the cats must have been dysentery and obstructions of the bowels, of a bilious kind, of which I have seen them perish in summer and autumn, previous to a great sickness among men. Dead fishes, in great numbers, floated down James river. The bilious yellow plague existed in Philadelphia, Baltimore, Charleston, Norfolk, Providence, Chatham, Portland, New-York, Savannah, New-Orleans, &c. It first began like a common bilious remittent, and as the causes augmented in strength, the disease increased in violence, and prevailed most severely in close, confined, hot places of cities, or in like situations in country villages. Dr. John Coulter, of Baltimore, is the only physician during this period, who believed the domestic origin of yellow fever, as arising, in part,

from the causes which I have related in the following pages. In a letter addressed to the President of the Board of Health, answering his request, he writes, that since the third week of June, a fever had prevailed, and become epidemic, affecting all descriptions of people, but mostly those who laboured hard in the heat of the sun, intemperate persons, and those who exposed themselves to the night air after the labours of a hot day. The disease was violent, and unless speedily assailed with powerful remedies, proved fatal. That it had become that day (26th August) general, and assumed to itself the sole government of diseases in that part of the city—namely, Fell's Point. During the wet weather dysentery prevailed in the last of July and beginning of August, and afterwards dysentery ceased, and yellow fever prevailed. He calls it epidemic, in contradistinction to imported contagion, saying: "it is in this locality of our atmosphere, the source of which I can perceive, in every ten steps I take in our streets, in ponds of stagnant water, and sinks of putrid animal and vegetable matter, exhaling perpetually, under a hot sun, the most offensive effluvia." The conclusion he draws is, that the disease was not *individually infectious*, and then mentions the uniformity of the symptoms, and the correspondence of the fever with the diseases which have prevailed in that city, and in other parts of the continent, for a number of years past. He enumerates the symptoms, which are exactly the same as observed in New-Haven, New-York, and Philadelphia. Drs. Alexander and Jaquitt both agree in their sentiments, that the disease was not imported, nor specifically contagious. The Board of Health then called a meeting of the physicians of Baltimore, and inquired whether any contagious sickness had come under their knowledge, and they answered in the negative, and three of the Commissioners reported, that the disease was a bilious remittent fever. The disease

raged chiefly among the poor, who lived in confined houses and low places, principally at Fell's point; and if the laws of nature are to be relied upon as to uniformity of their operations, these facts, data, and evidences alone, will decide all disputed points relative to the origin, and causes, and phenomena of yellow fever. It is here decided by unequivocal evidences—evidences that preclude all the carpings of prejudice, and casuistry of interest—that the yellow fever and bilious remittent fever, are the same disease, only differing in degrees of violence; and that the remittent and intermittent fevers are the same disease, with a similar difference in severity, and that the yellow fever and plague, and even typhus fever, and compound inflammations, and all other fevers, are identically the same disease, in essence, nature, causes, consequences, and cure, modified only by a slight difference in the strength and nature of the efficient causes. Dr. Lind has asserted, that a dysentery is a yellow or malignant fever, seated in the intestines, which is proved incontrovertibly by these facts, respecting the cessation of the yellow fever on the approach of cold, wet weather, which cast the disease upon the bowels, or determined all the humours there, and induced a flux, instead of costiveness, accumulation of bile, and inflammation of the internal viscera. For as soon as the wet weather ceased, and hot, sultry weather recommenced, yellow fevers again began to prevail. The controversies of the physicians in Philadelphia were renewed with great asperity, and no truths were admitted by the advocates for imported fomites, contending that the distemper was introduced into the city by the *Arethusa*, which arrived from Jamaica and Havanna, on the 23d of July; while others contended, that it arose from putrid exhalations. The city was deserted, and a thousand persons died of the disease, mostly in the suburbs. The same disease destroyed forty lives in Providence, and

hydrophobia raged in Rhode Island; dysentery raged in Nantucket and West Point, and many sporadic cases occurred in Bristol, Warren, Greenwich, Indian Point, Gloucester, Warwick, &c.; and in the succeeding winter, malignant bilious peripneumonies and pleurisies appeared in all parts of the country, with extraordinary symptoms of sore throat, scarlet fever, redness of the face, inflamed eyes, perpetual tossing and sighing, strong exertion of the muscles, a weak pulse and sizzly blood, or malignant and spotted fever, or dysentery, and yellow skin.

In 5802, the preceding winter was severe and long, May was remarkably dry and sultry, in June the south was deluged by rains, causing inundations of the banks of rivers, three or four days of July were excessively hot, followed by twenty days of very cool weather, and then the most sultry season ever experienced in the climate ensued, attended with great rains. Catarrhs prevailed in the cold, wet spring, bilious fevers appeared very early, indicating the predominant condition of the pestilential atmosphere. In summer and autumn the grasshoppers infested the country from Pennsylvania to New-England, and devoured all the vegetables, the pastures, and meadows. The pestilential fever appeared in Philadelphia in June, many cases occurred in July, the city was filled with terror and dismay at its ravages in August, and it was soon deserted by the inhabitants. The disease was unusually mortal, and extended through the remotest parts of the city: the number of deaths was 3440. The disease began to vanish on the approach of frost, and totally disappeared in the middle of winter. This year, also, it was supposed that the Deborah had introduced the fever into the city, but the fact of its occurring previous to the day of her arrival, the 18th of July, puts all dispute on this point for ever to rest. The same disease prevailed also in Wilmington, Newcastle,

Duck creek, N. J., Bridgetown, Woodbury, Norwalk, Newport, New-York, Albany, Boston, Portsmouth, New-London, &c. It exhibited both the bubo and carbuncle, with the malignancy of the plague of Egypt, and carried two thousand bodies to the mansions of the dead. The disease was less generally characterized with inflammatory diathesis, and venesection was attended with less salutary effects than in former years; it exhibited no infection, and appeared only to rage in confined parts of the city, and in low, damp, cold houses. The usual lake, swamp and marsh fevers prevailed in Royalton, Grand Isles, New Milford, and many other places, and in cold, damp situations. The winter of this year was very severe, and was marked with catarrhs, pleurisies, bilious peripneumonies, anginas, and measles; the spring was cold and late; the summer was distressingly dry from the beginning of July, in the northern states; the crops were partly destroyed, and caterpillars devoured the cherry, apple, willow, ash, hickory, and oak trees, &c.: in autumn immense quantities of rain fell, all the multitudes of flies died suddenly, by a great change of weather, from a hot and dry, to a cold and damp state of the air, and a grievous pestilence commenced in New-York, on the 20th of August, and continued till the 10th of November. But Mr. M. Smith died of the disease on the 29th of July, and from that time until the 20th of August, it gradually increased, and on sudden cold, damp weather happening at that period, many persons were seized with it in various parts of the city; the number of deaths during these three months was 2086—1110 men, 589 women, and 885 children—1424 died of fever, besides many who, after abandoning the city, were cut off by it in the country, which would swell the bill of mortality to 2500. An opinion prevailed among the people, that the progress of the distemper varied according to the state of the atmosphere;

they observed, that cold mornings and evenings, accompanied by hot days, produced many cases of the disease. The thermometer stood at 91, 96, 90, 89, and 88; on the great fall of rain, on the 14th of August, it fell to 78, and rose to 90 again on the three following days. This sudden and great increase of heat immediately after great rains appeared to have a proportionate influence in producing the fever in question, says a narrator of the facts, and concludes, "Now as heat and moisture are powerful agents in producing pestilential diseases, so must the common causes necessarily promote the extension of these diseases."

In 5803, the summer was hot and dry, and marked with heavy showers, thunder and lightning; the autumn was changeable, the winter severe, and the spring cold and late; the yellow fever existed in many parts of the Union; remittent, intermittent, bilious and malignant fevers also appeared in various Atlantic towns and villages. In 5804, the malignant pestilence appeared in Baltimore, and other places. In 5806, the bilious yellow fever appeared in Boston, in the latter end of a hot summer, and in a sultry autumn. The physicians of that town attributed the causes to some peculiar vapour, or smell of the soil of a certain portion of the town, where it originated; but they do not unfold to us the peculiar nature of this vapour. But it appears to us very absurd to assign the causes of the disease to the earth, water, modes of living, or houses of the patients, for without the great heat of summer, and changeableness of autumn, particularly constituted into an insalubrious season, no yellow fever can ever exist. The symptoms of this disease were rigours, great pains in the head, spine and sides, hard, full pulse, coma, or delirium, or perfect senses, bilious and black vomiting, suffusion of the eyes, extreme restlessness, spontaneous hemorrhage, convulsions, and yellowness of the skin in many, producing

death before the fifth day. The fatal signs were a sudden cessation of all pains in the stomach and bowels, vomiting black, flaky mucus, a perpetual retching, obstipation of the belly, sinking of the pulse, coldness of the extremities, irregularity of pulse and countenance, syncope, and sudden dissolution.

The year 5820, or 1816, the period in which I arrived from the East Indies, in this city, was not distinguished for any unusual sickness. Eruptive diseases in the spring, cholera, insolutions, fluxes, and bilious fevers, in the summer, some malignant fevers and inflammations in the autumn, and pleurisies, peripneumonies, phrenzies, &c., in the winter, prevailed. In 5821, the yellow fever raged dreadfully in Savannah, New-Orleans, Mobile, Natchez, Baltimore, Charleston, Havanna, &c. The spring was dry, and the summer dry and hot, the autumn variably hot and cold, and the disease assumed a malignant appearance.

In 5823, or 1819, the winter was mild and open till the last of December, the spring was wet and cold, and the summer was dry and uncommonly hot; all the vegetable kingdom seemed to wither; the wells and fountains were dried up and exhausted; the thermometer rose to 90 and 98, and never fell to summer heat during the month of June, and in the month of May rose to 100, and varied between 94, and 96, and 100 degrees of Fahrenheit's scale, and in August it was at 94, and did not descend to 80; the inhabitants called it an "old fashioned summer," because it was so like the summers of 1790, and each succeeding year till 1805, which were distinguished for their unhealthiness. Intermittent, remittent and bilious fevers, and dysenteries, greatly prevailed in all Atlantic towns, villages, and swampy districts, and a great mortality took place among the inhabitants; the children were swept away in great numbers. The number of deaths in New-York exceeded

one hundred, in the month of August. The malignant pestilence appeared in Boston in the beginning of July, in Philadelphia on the 24th of that month, and in Baltimore and its vicinity, and at Charleston, at the same time. It prevailed also in New-Orleans, Baton Rouge, Natchez, Mobile, at Tombecbee, in Alabama, &c., and along the low banks of the Mississippi, at Havanna, &c. It appeared in New-York about the 24th of August, and I witnessed, during the season, the ravages of this pestilence, and have traced the causes of every case that occurred to its original source. Mrs. Kavanaugh the first victim to this fever, laboured hard, was exposed to cold and damp, in washing clothes, lived in an unhealthy part of the city, or in an unhealthy house, and kept female boarders; she was seized with violent fever on the 24th of August, and died on the 29th. Margaret Brady, a native of Ireland, worked hard in the heat of summer, was but a short time in the country, laboured under a bowel complaint, some time before the invasion of fever, lived in the same house with Mrs. Kavanaugh, in Old Slip, a damp, low, cold, open house, and sickened from heat, fatigue, and sudden change of weather; on the 2d of September she was dragged away to the quarantine ground, about two or three miles distant; no remedies were employed on the first or second days of the disease, and what were used on the third day we cannot tell, but we presume the common treatment of the place for this disease was employed, and she died. The two Van Nests sickened on the 30th and 31st of August, from eating an excessive quantity of muskmelons, then drinking rum, and bathing their bodies in cold water, and died on the 5th and 6th days of September. The young lad, Makay, sickened from getting wet, and Olderloyd from intemperate living, exposure to the night air, and the confined, damp situation of their dwelling, adjoining to Mrs.

Kavanaugh's, about the same time, and died on the 6th and 8th of September. Mr. Brown was exposed to the burning sun, drank hard, lived in a damp, cold house, sickened and died on the 2d of September; John Davis also sickened two doors from Brown, from similar causes, and died on the 5th. Corporal Evans was much exposed to the sun, nocturnal damps, and exercise, and died on Governor's Island. These cases seemed to originate in that part of the city in which the fever of 1798 appeared—in that portion of the city lying between pier No. 3, East river, and Coffee-house slip, easterly, and up to Pearl-street, northerly; or, from Coenties' to Coffee-house slip, and from Pearl-street to the river. Fifty-seven cases occurred in that confined and southerly portion of the city; the other cases happened in those parts of it which are exposed to the sun—principally in Water-street, which is low, confined and damp. Fifty out of seventy cases proved fatal!!! A great proportion, indeed, of the cases reported—some of which, no doubt, were mild: say 13 were mild bilious attacks, and then we may conclude, that every violent case of the disease was mortal—as a great physician has openly acknowledged. Some of the physicians supposed the infection to have been imported in the Union, from Baltimore, and La Florentine, from St. Pierre; the former of which left Baltimore on the 21st of July, previous to the appearance of yellow fever there, and arrived in New-York on the 8th of August, and the latter came into the river on the 24th of August, posterior to the prevalence, or occurrence, of the yellow fever in the city. The other part of the physicians, erring on the other hand, attributed the causes of the disease to heat, moisture, and vapours of the earth, or filth of the houses and streets: but I shall satisfactorily prove how small a share filth or noxious air

had in the production of this yellow fever. Its symptoms were, great pains in the head, back of the neck, spine, loins, impatience of light and noise, redness of face and eyes, great depression or delirium. The treatment employed by the physicians, consisted in active cathartics, as calomel and jalap, rhubarb, and magnesia; the other remedies were, once bleeding in cases of great reaction, "twenty ounces, in some cases, were taken with advantage, the application of cupping glasses to the temples and back of the neck relieved the pain in the head and intolerance of light, and diminished the redness of the face and eyes," the carbonate of potass and soda, in conjunction with wine whey, Virginia snakeroot decoction, compound tincture of bark, blisters to the body, clysters, mercurial frictions, the administration of mercury, &c., but all the patients perished.

Dr. Campbell, of Charleston, states, that the most successful practice in that city, consisted in active doses of calomel and jalap, continued until the patient's ^{bowels were} well evacuated, succeeded by small doses of calomel, to alter the morbid condition of the liver, blisters, sinapisms, and other rubifacients to the stomach and extremities, near the seat of the pain, the application of cold water or vinegar to the whole body, hot lemonade, calcined magnesia, lime water and milk, laudanum, citrates of ammonia, soda, and potass, with aromatics, cold drinks, and emetics. By some, saline draughts, and the antiphlogistic plan of treatment, were used in this city, in the first stage of the disease, and stimulants and cordials in the advanced stage, and opiates and sudorifics in any period of it. In Philadelphia, depletion by active purges of calomel, repeated with a view to salivate, and blisters, were used, and other cathartics administered; venesection was sparingly practised; the mercurial treatment

was also employed in many cases, with sudorifics of antimony; sometimes a few ounces of blood were drawn, sometimes many ounces of mercurial ointment were rubbed into the body, and many repeated doses of calomel given, but the practice was diverse and undecided; no preference could be given to any of them. Early depletion, by the lancet and cathartics, were relied on by some; others confided in cathartics and sudorifics, calomel in small doses, and mercurial frictions; others joined both these modes of treatment; and a fourth class of practitioners attempted to excite a counter irritation by ol. tereb. internally, blisters to the stomach, legs, &c., yet no preference could be given to either of these methods.

In 5824, a few cases of bilious remittent and ardent fevers occurred in this city, as usually happen every autumnal season of the year; cholera and fluxes of infants happened in the summer, &c. The preceding winter of 5825 was mild, the spring cold and late, and the summer mild and variable; no great sickness prevailed during summer; some hot, sultry days happened, and cold, wet ones succeeded them; about the 16th of September, a sudden change of weather occurred, heavy rains, with north winds succeeded them, and a considerable number of persons were suddenly seized with violent yellow fever; some of those reported were carried to the Marine Hospital and died, others not reported recovered, excepting one or two cases. Eleven cases came under my own care: the first arose from getting wet in the rain; the second arose from sleeping all night in the cold, damp, open air; the third arose from exposure to the cold night air produced by a sudden change of the wind to the north, being uncovered in bed until he was stiff; the fourth took it from exposing himself, after hard labour during the day, to the cold night air, which obstruct-

ed all perspiration, and produced the disease; the fifth caught cold in the rain, and by sleeping in a low, damp house, and hard drinking; the sixth person was seized after sleeping under an open window during a cold, wet night, and after much fatigue in the same house; the seventh sickened after sleeping exposed to the cold air of a garret window; the eighth was just delivered of an infant, fell into puerperal fever, or inflammation of the intestines, from long costiveness, hard labour, a damp, low, cold house, and fear and grief of mind, under the trying circumstances of her family's sickness, the ideas of her husband's death, and of two others of them being taken to the Marine Hospital; the tenth took it in her old age, from great fatigue, sleeping in the same damp situation, sometimes on the damp floors, and the grief occasioned by her sister's death; and the eleventh caught it from taking cold and excessive drinking. All these persons, excepting one, recovered under my care; two of those who recovered had the black vomit, three had yellowness of the skin, and accumulation of bile, and all of them had the following symptoms: chills, violent pains in the head, loins, stomach and limbs, perpetual vomiting of bilious matter from the beginning, or of black, flaky mucus or matter like coffee grounds, yellowness of the skin, costiveness, white or brown tongue, redness and suffusion of the eyes, intolerance of light and sound, great thirst, extreme labour, anxiety, hurry of breathing, great and burning heat of the body, a strong, hard, quick pulse, generally very irregular, sometimes strong, and at other times weak, fainting, great prostration, red, yellow and scanty urine, delirium or drowsiness in a slight degree, and the skin hot and dry; in one case the disease assumed the form of a distinct intermittent, attended with violent paroxysms, &c. During the several years I

have resided in the East Indies and America, I have had ample opportunity of attending patients labouring under violent bilious and malignant fevers, have observed their rise, progress, and terminations, in various cases; and have now learned or discovered the real nature of the disease being directly contrary to the essence ascribed to it by many preceding writers and practitioners, in America and Europe, and being of the same nature as some accurate and acute observers have conjectured it to be, without being believed in their suppositions and suggestions, and, therefore, I have determined to add my testimony to their assertions, in order to unfold its nature and cure to the world.

The present year, 1822, has been marked by an open, mild winter, a backward, cold spring, a sudden hot and dry summer till July, when the north winds began to blow unexpectedly, and a series of cold weeks ensued. About the 10th of July the sudden cold produced yellow fever in the northern parts of the city; and the cold weather following the three cold days, continued it throughout the whole of it, during July, August and September. The physicians differed respecting its origin and cure. Almost all believed that it arose from infection; and nearly every one condemned the practice of bleeding. Dr. B—— and myself are the only two practitioners that use the lancet in yellow malignant fevers, in the city of New-York. I have restored nineteen out of twenty cases of the fever by the practice of copious and repeated bleedings, in the first twelve or twenty-four hours of the disease; but if I should take in all those where the black vomit had happened, or the brain had been destroyed before I was called to attend them, nine out of ten have only recovered by means of bleeding, purging, sweating, &c. But if I were allowed to state the results of the

treatment generally employed, which exclude blood letting, and include purgatives, sudorifics, and mercurials, I could soon show, that five out of ten violent cases have not survived the ravages of this dreadful malady. For the total number of cases reported and unreported up to the first of November, were about 475, of which about 275 have died; and, if we leave out 150 for drunken cases, slight attacks, cases where no physician attended at all, and 50 false reports, of which I know and have noted many, then no violent cases of this inflammation of the brain, heart, stomach, intestines, &c., combined with bilious and feculent disorders of the viscera of the abdomen, have been restored by castor oil and catnip tea, mercurials, sudorifics, rubifacients, stimulants, &c., commonly used to cure the disease. Now, when we consider justly, that almost all those who really had the yellow fever, in a considerable degree of violence, have perished, it is high time for all physicians to alter the general and popular method of treating it, and to try some other remedies, that may be more successful; for all have hitherto been attended with failures and disappointments.

And to conclude, I have only to declare, that, out of sixty unequivocal cases of yellow fever, consisting of compound inflammation of the brain, lungs, stomach, liver, and intestines, which have come under my care this season, five have inevitably died: two were seen too late—two were destroyed by the unconquerable violence of their attacks—and one sunk in horror and despair.

A

DISSERTATION

ON THE

DISCOVERY AND DOCTRINE

OF THE

Nature of Fevers.

THE DISCOVERY OF THE NATURE OF FEVERS.

THE genuine nature of fever, says the celebrated Lieutaud, lies in great obscurity; it seems hitherto to have eluded the researches of physicians, says the illustrious Cullen; and has heretofore been passed over unnoticed, in a great measure, even by the most accurate observers, says Jackson. Neither the miasmata p^oludum, the effluvia of morbid bodies, the bile, the superabundance of blood and humours, nor the vitiation of the fluids, the diminution or increase of direct or reverse associated motions, or any other cause whatever, except cold and local affection thereby produced, are circumstances on which the existence of fever necessarily and invariably depends. The nature of fever, formerly called the proximate cause of the disease, has defied the scrutiny of all men, since the beginning of the art and science of medicine and surgery. So abstruse has the subject been to physicians, that all have been deterred from undertaking to remove the difficulty, or to unfold the mystery. The renowned Cullen has in vain attempted to explain it by the aid of borrowed theories. “The proximate cause of fevers,” says he,

“seems hitherto to have eluded the researches of physicians; and I shall not pretend to ascertain it in a manner that may remove every difficulty;” and then proceeds to deliver his favourite doctrine of universal spasm and atony of the extreme vessels of the body, which he borrowed from Themison, Thessalus, Hoffman, &c., and which appears to be nothing less hypothetical and erroneous than the doctrine of increased animal heat and bile being the great causes existent in the body, to constitute fever, adopted and professed by Hippocrates, Galenus, and their followers, who rendered it current for upwards of two thousand years.

The first author I ever read of in the annals of medical history, that advanced any rational idea, and an opinion, on the great subject of the nature of fever, in opposition to the general doctrines of the schools of medicine and philosophy, was the famous Diocles of Carystus, a physician of great eminence, one of the most ancient of the dogmatic sect, and a strenuous defender of the rational medicine, introduced by his noble predecessor, Hippocrates of Cos, the parent of the medical science. Fever, according to the opinion of the accurate Diocles, is not so much a primary disease, as a symptom of some other local affection. He believed that fevers arose from the same causes, that we behold them to arise in inflammations, abscesses, wounds, contusions, and poisons of venomous animals, &c.; and this opinion was rational, and the assertion grand towards the advancement and progress of medicine; yet it does not appear, that this suggestion of Diocles had the least influence on the systems of succeeding writers, and the whole doctrine again sunk into utter oblivion, excepting we should suppose, that the distinction of fevers into primary and secondary idiopathic, and symptomatic kinds of them, to

have originated in that suggestion. If physicians had considered this doctrine of Diocles, and had searched after the real nature of fever by dissections of their dead, they would have arrived at a perfect knowledge of the subject, ages prior to my day; but unfortunately for the race of man, their knowledge is slow and gradual, and liable to decay, in the lapse of time, and the revolution of letters. If they had adopted the sentiment of Diocles, and proceeded to view fever as a mere symptom of some other affection, as in cases of inflammations, wounds, and poisons of venomous animals, they would soon have been able to discover the nature of that other latent disease, which, as they supposed, excited the fever of the universal frame; but they entirely neglected the improvement made by Diocles in the doctrine of his great master, Hippocrates of Cos, and imbibed the error of the father, rather than the truth of the son, of rational medicine.

Erasistratus of Cea, a physician at the court of Antigonus, was the first person who introduced the doctrine of the *error loci*, or a transfusion of blood into the arterial channels, which he imagined to be produced by repletion, which was mentioned by Celsus and Galenus, adopted by Asclepiades, Boerhaave, and their followers, and was confuted by Cullen of Edinburgh. Erasistratus thought that the blood transfused into the arteries, and the spirit driven from the heart, disturbed and altered its motion, and that the blood thus transfused without the due receptacles, stagnated in some principal part, and produced fever; and that the condensation of it in a more ignoble part, and in the ends of arteries, generated all modifications of inflammations. He believed fever to arise from phlegmon, and inflammation from plethora, yet astonishing to tell, Chrisippus, his preceptor, and the

whole family of the Erasistrati, brought mission of blood into neglect and contempt, as the Chinese do to this day.

Asclepiades of Bythia, a man of great eminence and talents, in his rage for innovation in medicine, attempted to change or modify all the theories of those who had written prior to his times; adopting the doctrine of atoms of Democritus of Abdera, and the doctrine of heat of Hippocrates, and the doctrine of obstruction in the permeable canals of the body of Erasistratus, whereby he explained the remote and proximate causes of fever, the remote being heat, and the proximate, corpuscular obstruction of the small vessels, with invisible atoms, which amounts to the same doctrine of obstructions obscurely treated of by Hippocrates, and the *strictum* and *laxum* of Themison, which Boerhaave implicitly imbibed in his Pathology of the Human Œconomy, under the names of lentor or viscosity of the blood. There was, however, some difference between the rational and methodical sects, respecting the proximate cause of fever; the one attributed to the change of the circulating mass, the other to a change in the capacity of the containing vessels: and we may safely infer, from this view of ancient doctrines on this subject, that the *strictum* of Themison and Thessalus has given rise to the spasmodic constriction of the capillaries of Hoffman and Cullen, and that the *strictum* and *laxum* of the nervous and fibrous systems, have produced the complex system of Boerhaave, which seems to be an amalgamation of all the theories of the world, invented both in ancient and modern times.

Galenus of Pergamus, the great commentator of the works of Hippocrates, adopted the humoral pathology of his master. He believed, that heat of the blood constituted fever, and that plethora produced the preternatural heat, and that putridity or cacochymy of the hu-

moours excited putrid fever; hence he described diseases of a plenitude, and diseases of a corruption of the fluids. But he thought that heat could be produced in five ways—by lassitude from immoderate exercise, by anger or passion, by putridity, by adstrictions and refrigerations, and by acrid aliments. What precedes the disease is the cause, what other affection follows is the symptom of the disease, according to the doctrine of Galenus, and these symptoms were of three kinds—the symptoms of injured action, the symptoms of excessive retentions or evacuations, and the symptoms of a changed natural quality of the body, without any lesion. So he considered all local affections to be the mere symptoms of excessive action, and corruption, as in fevers and inflammations, and of excessive evacuations, as in fluxes and profusions of blood, on which all the doctrines of the moderns are founded, even at the present day. He adopted the humo-ral doctrine of Hippocrates, the doctrine of putrefaction of Athenæus, the doctrine of preternatural heat, of all the ancients, being the proximate cause of fevers, and compiled and modified all the doctrines of his predecessors into one complex system. He divided fevers into hectic, or habitual, humo-ral, and ephemeral kinds. The first he supposed to arise from an affection of the solids, the second from a derangement of the fluids, and the third from some disturbance of the spirits or nerves; and imagined that putrefaction is the medium by which fever is excited, where the humours are the subjects of the disease; contiguity and continuity, where the distemper affects the solid parts; and the rapid movements of the spirits or nervous influence, where the sickness is sudden and transitory. He always supposed a putrescent tendency in the blood to give rise to a continued fever, a similar condition of the phlegm to produce

the quotidian, a putrefaction of the yellow bile to generate tertian, and a similar tendency of the black bile to create quartan intermittent fevers; which empty chimera continued to be the current doctrines of the schools, even till the times of Ætius Amidanus, who suggested some restrictions and explanations of his doctrines in certain species of fever.

Ætius of Amida, denied the presence of putrefaction in cases of synochus, or inflammatory fever, which he, on the other hand, ventured to aver, consisted in an inordinate fermentation or ebullition of the blood. But, except this particular innovation of Ætius, the doctrines of Galenus wholly occupied the schools of medicine, in Greece, Arabia, Italy, Gaul, Spain, &c., till the beginning of the sixteenth century, when the famous Aureolus Philippus Theophrastus, commonly called Paracelsus, the great impostor of Brasil from Einfidlen, introduced the chymical system of medicine, in direct opposition to the humoral pathology of Hippocrates and Galenus, which commenced a period of chymical reasonings, controversies, errors and theories, that continued to prevail for one hundred and fifty years, and may be properly styled a period of medical romance. These new chymical and ancient mechanical systems of medicine, which are fraught with the errors of chymical and mechanical derangements of the solids and fluids in their pathology, and with the errors of the *vis medicatrix naturæ* in the method of curing febrile diseases, occupied the schools of medicine, and agitated the medical world, till the middle of the 17th century, when the great discovery of the circulation of the blood by Hervey, of immortal memory, overturned the chimerical systems of the Galenists and Theophrastists, the mechanical and chymical sects of physicians, and led to the three new and different systems of

medicine, that we find delivered in the writings of Stahl, Hoffman, and Boerhaave, which have continued to direct the practice of medicine down to the present day.

Stahl, of Germany, founded his pathology entirely upon the doctrines of plethora, cacochymy and motion, which constituted his three genera of the causes of diseases, viz:—a plenitude of blood, a corruption of the humours, and a determination of them to particular parts, besides injuries and lesions of the body, habits and hereditary diseases; and rested his method of cure on the ancient maxim of the *vis conservatrix et medicatrix naturæ*, commonly called nature by the physicians of antiquity, on the supposition that the powers of nature cured diseases of plenitude, vitiation and local action, by allowing nature to diminish the blood, to expel the morbid matter, and to dissolve the local affection. *Febres esse intentiones motuum vitalium secretiorum et excretorium ab ipsa natura humana vel anima vitaliter, movente, ad conservationem corporis institutas, directas et ad effectum perductas*, says he, and proceeds to institute a method of cure according to the tenor of his doctrines and the nature of the animal economy, such as the expulsion of corruption by the natural excretions, preservation of the body from destruction by corruption and dissolution of solids and fluids, therefore he gave four precepts to express the laws of nature observed to cure fever—1st. Never move, where nothing ought to be moved: 2d. What ought to be moved do not impel it to inert and general motion: 3d. Where the thing is moveable, but motion is languid, excite none: 4th. Agitate all things to time, measure and place conveniently, by the ratio of motion.

Hoffman, of Saxony, proposed and founded a new system on the mechanical pathology of spasm and atony of the extreme vessels, in the following general positions:

1st. That all diseases consist of a vitiation of the microscopic motions of the solids, and disturbed mechanism of the fluids: 2d. Or preternatural affections of the nerves, modified by spasm alone, and simple atony, which makes all diseases of the fluids or solids to proceed from, and depend on, these two conditions, whether they exist in the secretory, excretory, motatory or sensory functions of the constitution, on mechanical principles. Considering every morbid condition of the parts of the body, and their functions, on mechanical principles, it follows, that a similar mode of remedying those morbid conditions must be adopted in the curation of disease. So Hoffman thought that the way of cure consisted in no other method, than that the motions and excretions departing from a natural state be reduced to their order. All his remedies, therefore, were designed to effect that only; either to remove or moderate increased motions, or to excite the depressed and the impeded, and promote and render them equal in all natural operations. From a more increased circulation of blood which happens in fevers, especially the acute, all the motions and excretions will become spontaneously natural, in a proper order and time, according to this mechanical system, without physicians and the apparatus of medicines. But in the cure of chronic diseases, where art is more powerful than nature, physicians of skill are useful to remove the atony of the viscera by remedies, to excite the depressed motions, to solve the obstructions, and to draw forth noxious matter by proper ways; which indications of cure lead all practitioners into an erroneous practice, even in applying stimuli, where bleeding is necessary, and in increasing the circulation, when it should be diminished; whereby the lives of thousands would be lost in the attempts to conform to such rules. On this mechanical system,

Brown and Darwin raised the superstructure of their systems, which seem to modify the pathologies of all the mechanical sect of physicians. in the present day.

Boerhaave, of Leyden, has founded his system on the humoral and mechanical pathology of the ancients and moderns, modifying it to all the different doctrines of the age in which he lived. Hence we find in his writings the diseases of rigidity and elasticity, debility and laxity of the solids; the diseases of the thinness and thickness, excess and defect, vitiation and corruption, of the fluids; diseases of an excess and defect of motion; diseases of obstruction of the vessels; and diseases of the nerves, &c., which exhibit a confused and an erroneous system of doctrines and principles, that tend to induce practitioners to employ the useless or pernicious remedies of antispasmodics, tonics and sedatives, deobstruents and emollients, alterants and evacuants, incrassants and attenuants, stimuli and diluents, &c., where the contrary should be employed on a rational method of curing diseases.

Dr. Cole, of Worcester, suggested the idea, that the proximate cause or nature of fever, depends on a laxity or debility of the brain and origin of the nerves. Bozelli and Cole were the only persons, who, prior to the celebrated Hoffman, considered the nervous system to be the seat of the proximate cause of fever. These doctrines of the preternatural acrimony of the nervous fluid of Bozelli, of Italy, of nervous laxity or debility of Cole, and spasm and atony of Hoffman, were imbibed by the celebrated Dr. Cullen, of Scotland, and have been implicitly believed by almost all physicians of modern Europe, with very little alterations, in the manner of explaining them.

Dr. W. Cullen, of Edinburgh, adopted the doctrine of spasm and atony of the extreme arteries, and laboured

hard to expl in the proximate cause or nature of fever, as consisting of this universal spasm, produced by the remote causes of the disease, or rather the *vis medicatrix natureæ*; which suppositions of the nature of fever, says Dr. Jackson, are mere subterfuges, and mysterious ways of acknowledging the grossest ignorance of the subject; and adds, that the proximate cause of fever is a certain peculiar state of the body, on which the disease, or the subsequent parts of the disease, necessarily depend. It is, in short, the first essential action of the febrile cause; but this action is so intricate, and difficult to be discovered, that physicians have sought for it in vain, for more than two thousand years. The ancients were satisfied with the ideas of preternatural heat, excited in the heart, and communicated to the rest of the body by means of the blood, animal spirits, or nervous influence; and the moderns have adopted the no less erroneous doctrine of a spasmodic affection of the moving fibres, and weakened action of the nervous system.

Dr. Benjamin Rush, of Philadelphia, implicitly imbibed the doctrines of Brown and Darwin, in opposition to those of Cullen. He boldly asserts, that the essence of fever consists in an irregular action, or an absence of the natural order of motion, produced or invited by predisposing debility; that every fever consists of increased excitement, and is seated in the blood vessels; and that all the local affections, called pleurisy, angina, phrenzy, inflammation of the liver, dropsy of the head, consumption of the lungs, inflammations of the liver, stomach, intestines, kidneys, and all other external and internal parts, are the mere symptoms only of an original and primary disease of the sanguiferous system, excepting in some local affections of the viscera produced by injuries, which bring the whole sanguiferous system into sympathy.

The irregular action of the arteries, constituting fever, consisted, according to his erroneous theory in a spasm, convulsion, heat, itching, aura dolorifica, and in suffocated excitement, which five constituents of preternatural action of the blood vessels, are imaginary creatures or beings of a visionary brain, drawn from the celebrated and hypothetical systems of Cullen, Brown, and Darwin. He further adds, that there is only one exciting cause, and that is *stimulus*, and one proximate cause, and that is *excitement*; so he makes all fevers to consist of an excess of excitement, which raises the powers of circulation to a degree incompatible with the enjoyment of health, inducing morbid actions, motions, sensations and operations, in the animal economy.

Thus we might trace the opinions of physicians in the different periods of time, and in different nations, respecting the real nature of fever, we might show the relative ignorance of all men on this great subject, and fully evince their defects in the knowledge of the nature and cure of diseases, in all preceding ages, by the testimonies of their own writings; whereby the whole science has been overwhelmed with floods of errors and erroneous systems from the times of Hippocrates down to the present age of learning and erudition; we might easily show, that the whole art of medicine has been distracted by disputations and revolutions of its theories, and that it continues still to fluctuate on the ocean of visions and uncertainties, and theoretical hypotheses, of its cultivators, who have either wished to exalt their names by the introduction of new systems and doctrines, or have laboured hard to acquire riches by some egregious impositions on mankind; and that very few have desired to advance the science and art of medicine, in order to confer the most gratuitous and lasting benefits on their fel-

low-creatures. But time would fail us to speak of the various systems of medicine, and review their numerous treatises, and I shall, therefore, open to view the doctrines of the schools of medicine of the present times, and shall then proceed to explain the doctrine of the nature of fever, which I have discovered in these my days.

The illustrious Dr. James Gregory, of Edinburgh, my esteemed preceptor, believed the doctrines of the *vis medicatrix naturæ*, and greatly admired the system of the illustrious Boerhaave, but rejected all his false notions of the humoral pathology, which are summed up in the following paragraph:—"Sic, practi doctrinam Hippocratis, in scriptis ejus mutæ extant de vitiis humorum, acrimoniis, acidis, aut alcalinis et fermentatis et materia morbosa sanguinem corrumpente, conjecturæ, a chemicorum theoriis desumptæ; et multæ opiniones quos ex scriptis mathematicorum haurit, de vitiis partium solidarum, debilitum aut fortium, laxarum aut rigidarum; de nimio aut deficiente motu circulatorio; de obstructione et errore loci; et de lentore et ternuitate humorum." So he purged all the errors of Boerhaave, and his predecessors, especially the doctrines of qualities, and elements, and temperaments, and coctions, and crises of the Greeks, and the Archæus of Helmont, both of the salts, sulphur, mercury, alkalines, effervescences, fermentations, ebullitions, and desflagations of the chymists, as well as the doctrines of mechanical distention and relaxation, true and spurious plethora, obstruction and error loci, too great or deficient motion of the humours, lentor, tenuity, and dissolution, spasm and atony, torpor and orgasm of the capillaries, &c., prevalent in the present day.

I was educated under the influence of the Gregorian doctrines of the Edinburgh school of medicine; I was

taught the theory of medicine as delivered in his *Conspectus*, and was exercised in the Cullenian discipline, divested of all his hypothetical errors of spasm and atony of the extremities of arteries. I learned all the branches of the medical science under the distinguished and erudite professors of the most celebrated university and school of medicine in the world. I always embraced plausible truths, and rejected visible errors, in theory and practice; I admitted doubtful hypotheses to have no place in my mind, to influence my future practice. Even during my discipleship, I thought for myself, and digested their instructions with an unfettered and independent judgment and reasoning; and I had no sooner completed my studies of the theoretical and practical science of medicine, and other branches of learning, in the college of Edinburgh, than I repaired to the schools of London, so famous for dissections and demonstrations of anatomy and physiology.

Having finished my intended course in the metropolis of the British empire, I launched into practice, under the auspices of a real imitator of the Edinburgh school, and a follower of Clark, Blane, Lind, Thomas, &c., and soon had ample opportunities of witnessing the great insufficiencies of the medical practice of the present day, in the hands of the most skilful administrators and practitioners. In this situation I soon had occasions to dissent from the doctrines of the schools, but years elapsed before I could bring myself to deviate from the practice which they, and the most esteemed authors, taught in their instructions and works. I hesitated in the old road until I should discover a new way by experience and observation, to keep me from stumbling on the dark mountains of doubts and errors. I consulted all the most celebrated writings of ancient and modern physicians; I

searched for light in vain, to direct my steps; and I determined to institute a series of new investigations into the nature of diseases, in order to learn from naked demonstrations of their essential nature, the absolute remedies of all modifications and complexions of them, existing among men. In the course of these experimental researches and observations in practice, I saw the necessity of adopting the doctrine and practice of Hamilton, respecting purgative medicines, of rejecting the doctrine and practice of Cullen in febrile diseases, of following the practice of copious venesection, recommended by Botallus and Sydenham in all kinds of fevers, and of adhering to many of the grand maxims of my esteemed preceptor, and combining all the best means and practices pointed out by the greatest of physicians, to render my efforts successful in the use and administration of remedies to subdue acute and violent distempers. But I still laboured in the blind and mechanical method of practice—treating diseases of whose nature I was *partially convinced, scarcely* knowing on what principle the remedies acted in reducing such disorders. I employed the remedies of bleeding, purging, sweating, blistering, cold affusion and diluting, and enjoined abstinence, quietness, &c., to reduce the vehemence of fever, by diminishing excitement in removal of stimuli, and by abstracting animal heat. I was soon convinced of the necessity and utility of this practice by experience and observation, yet *I had little certitudo* of the nature of fever, and could *barely* comprehend the way and manner in which these remedies abstracted the disease from the human frame; I merely followed the practice because I found it most successful. I thought, in conformity with the doctrines of the schools of medicine, that fever consisted in a vitiation of the humours of the body; in a

morbid condition of the fluids by some specific contagion; in some inordinate mode of diseased actions, motions, sensations, and operations of the sanguineous, nervous, absorbent, muscular, or intellectual systems, or in some undefined and unknown poison lurking in the body, which raised a constant fever, and distempered the universal frame. But I did ~~even~~ then conjecture, that inflammation of some of the internal organs or parts of the body incited the general fever, and that all the morbid phenomena apparent in the disease were the mere symptoms of the local inflammation, which makes fever and inflammation to be identically the same disease, in its nature and essence: *altes* no such doctrine was ever taught in the schools of medicine in Europe or America; yea, the very contrary doctrines were held and inculcated by all those who promulgated their sentiments and opinions, namely: that fevers arose from contagion, miasmata, effluvia, or poisons, and that the local affections were induced by the general fever. I once, indeed, heard Dr. Duncan, sen., of Edinburgh, say, in his clinical lectures, that he had no doubt of the presence of an affection of the brain, in the case of a patient to which he alluded. But no such doctrine as the one I hold respecting the nature and cure of fevers, was ever taught by the professors of medicine in any prior age, to my knowledge, since the days of the parent of rational medicine.

During my peregrinations in the East Indies, in the the years 1810, '11, '14, '15 and '16, I had many opportunities of trying every method of curing diseases of all descriptions, and of proving the virtues and efficacies of all remedies commonly employed by practitioners, as well as of making all necessary alterations in former modes of treatment, and in the choice of remedies. Fevers, fluxes, inflammations, affections of the spleen and

liver, apoplexies, palsies, spasms, &c., were the great diseases that first attracted my attention, being under my own care and treatment in those warm regions, and I was extremely mortified to find all my remedies ineffectual to reduce, remove, or subdue many of those distempers, by the common method of treatment; and my pride was humbled at the repeated disappointments I encountered, in being baffled to cure them with the common remedies, carried to the same extent, and administered with the same diligence, as recommended in books, or by professors of medicine; I administered purges, barks and wine, with the utmost vigour, in all cases of inter and remittent fevers; I exhibited saline purges, opiates, mercurials, sudorifics and nutrients, in cases of dysentery, and found them all ineffectual to arrest the progress of fevers, or to cure the affections of dysentery, in many severe cases of those distempers. I could not produce an immediate crisis in fevers, nor remove the agonies of fluxes; they still continued to return, or to torture my patients, in defiance of all the remedies that had been recommended by Drs. Blane, Lind, Clarke, Chisholm, Cullen, Thomas, Philip, Hoffman, Boerhaave, Brown, Ferriar, Fordyce, Currie, Darwin, Jackson, Wright, Fowler, Trotter, Haygarth, Heberden, Lieutaud, Huxham, Russell, Macgregor, Falconer, Desgenettes, Milne, Dewar, Bisset, Warren, Pringle, Buchan, Churchhill, Friend, Mead, &c., who are supposed to have delivered the sentiments of the medical schools in their days. Neither were the remedies employed by the most noted of the ancients, as Hippocrates, Celsus, Galenus, Asclepiades, Themison, Erasistratus, Diocles, Praxagoras, Aristoteles, Herophilus, Heraclites, Apollonius, Sextius Niger, Julius Bassus, Oribasius, Alexander, Ætius, Paulus, Palladius, Actuarius, Rhrrasis, Avicenna, Avenzoar,

little
Averhoes, Alsaharavius, Constantinus, Hermes, Al Tamini, Abul Pharagius, Ali Ebno, L'Abbas, Al Malice Hoamti, &c., among Egyptians, Grecians, Asiatics, Chinese, Africans, &c., (see our History of Medicine,) more successful in curing febrile distempers. Having read and studied the medicine of the ancients and moderns, I was able to choose those remedies, proposed in their writings, best calculated to cure disorders of the human frame, in all climates of the earth, and employ them to the greatest advantage; but without the knowledge of the real nature of fevers and fluxes, I still laboured in the dark, and could not effect, in all cases, by the use of such remedies, a solution of the disease under my care, with any degree of certainty of success, in the commencement of the distemper; I was acquainted with the principle on which those remedies acted to bring them to a favourable crisis; I longed for that day when my knowledge of the nature of diseases, and of the virtues of the remedies employed to cure them, would enable me to cure the severest of them at pleasure, and to liberate my fellow-creatures from the iron grasp of mortal affections.

Five years were consumed in these investigations into the nature of all incurable epidemic distempers in the regions of Asia, where I discovered the nature of fluxes to be inflammations of the intestines, by experience of the disease in my own person, and by observations in curing others, and immediately instituted a new method of treating them, on the infallible principle of such and such remedies being sanative in such distempers, that consisted of such and such local affection of such a nature. I hence laid aside the mercury, the ipecacuanha, the nitric acid, the cretaceous astringents, the catechu, kino, campeachy wood, the port wine, lime water, pome-

granate, anacordium, simarouba, cascarilla, columba, cinchona, astringents, tonics and bitters, the antimonials, aromatics, spirits, embrocations, fumigations, ventilations, &c., recommended and practised by authors and practitioners, in fluxes; and proceeded to treat them as pure inflammations of the inner or villous coat of the intestines, by bleeding, purging, sweating with warm bath, anodynes, nutrients and solace, whereby my patients recovered, in two or three days from attacks of the most violent dysenteries.

I then *concluded*, that all fevers were of the nature of inflammation, from the circumstances of persons being seized with agues and fluxes, on the sudden change of weather from heat to cold, and that an inflammatory affection of some of the internal organs existed in every given case of fever, although I had no opportunity at that time of demonstrating this fact by dissections, as all the men under my care recovered from their agues, by the power of purging, and sweating, and nourishing, which I employed to cure them. But having arrived in New-York in 1816, I soon had an opportunity of attesting the truth of my conjectures and inductions, by dissections of the bodies of those who had died of fevers.

After discovering the real nature of all acute distempers, which had been hid for so many ages, and still was latent to the physicians of the present day, I began to lament the universal ignorance of the professors of medicine, respecting the nature of diseases, and to think, that the science was more in its infancy than the practice of medicine, which had received the various improvements of Botallus, Sydenham, Hamilton, Armstrong, Jackson, Lommius, Hillary, Maclarty, Bancroft, Rush, Johnson, &c., for all these practitioners improved the method of cure, by experience and observation, on the

old theory of the schools, without knowing the nature of fever, on which the principles of practice ought to have rested in their treatment. I further reflected on the subject, and drew the following conclusion: that, if these diseases consisted of an inflammation of some of the vital organs, as the essential, original, and primary affection, in opposition to the opinions of all other physicians, of ancient and modern times; and, if the morbid phenomena of fevers proceeded from this local inflammation, in every given case, the powerful remedies which we generally employ in simple inflammations, would certainly be effectual against fevers and fluxes, natural pox and measles, erysipelas and febrile eruptions, &c., that partook of the same identical nature; and I determined to use the same remedies in febrile diseases, that I employed in common inflammations, treating both orders of these distempers in the same manner, whence I was soon induced to rejoice in the unparalleled success of these remedies, and felicitated myself in being able to arrest the progress of the most violent of all human diseases, to a certainty and a precision that I never could have conjectured, during my ignorance of their real nature. I bled, purged effectually, sweated, and occasionally blistered my patients, and prescribed abstinence, in all fevers and fluxes, in the acute period of their existence; putting no confidence in the use of barks, wine, mercury, antimony, alexipharmics or antiseptics, sudorifics or diuretics, emetics or laxatives, directing all my potent remedies to the reduction of the local inflammations, during the acute period of the disease; and I enjoyed the unspeakable pleasure of seeing my patients recover from their febrile distempers and sicknesses, in the space of two, three, four, or five days; whereas a month, or two months, would

have been required for the progress and decline of their diseases, in that process which unassisted nature seems to follow in restoring the sick, or the patients might all have died previous to a natural crisis of their diseases.

I observed the plan of cure followed by the East Indians in fevers. I saw the practitioners cure the most vehement cases of intermittent fevers in the space of a single day, with such a mathematical precision and certainty, as I never beheld in any region of the earth; by purging, vomiting, and sweating. I perceived that they also cured without knowing the nature of the disease, or the principles of their practice; and was led to believe all diseases curable, if we could only discover the remedies against them, and would apply these remedies in due time and to sufficient extent, to effect these possible ends. Their method of treatment consisted in the administration of a medicine that effectually purged and vomited their patients, who were obliged at the same time to use the steam bath and to drink abundantly of warm teas until copious or profuse sweat was produced, and the fever was mechanically reduced, leaving nothing to be done by feeble nature, as the ancient and modern practitioners of Europe were accustomed to do many ages prior to the days of Botallus and Sydenham.

Having acquired a knowledge of these things relative to the nature of febrile diseases, I was induced to abandon the common plan of treatment, and to institute a new method of curing them with the use of new remedies; but in the course of my investigations, I learned from the annals of medical history, that there could be no advantage in deserting the old path, until I had found a new one, well paved with the solid rocks of experience, observation, ratiocination, and induction, in which I would meet no impediments to my course of rational

practice. On the consideration of this circumstance, I rather concluded to conform my practice, in some degree and measure, to the doctrine of the schools until I should sufficiently attest and establish my new doctrines and principles, by long and reiterated experience and observations, which I deemed necessary to sanction any change in the generally approved practice, and to ratify the truths of my doctrines and maxims by the success of the remedies which I proposed to myself to employ in their cure.

Thus I laboured under great difficulties, and still continued to use the remedies recommended in the schools of medicine, until I encountered a desperate case of fever in a stout, healthy young man, a resident of the city of New-York, which baffled all my utmost efforts, in consultation with another physician of eminence, to effect a cure; when I was greatly affected at the fatal event of his death, was almost discouraged at the imperfection of the common medical practice, and determined instantaneously, in my own mind, to ascertain the real cause of his death, and the great defect in the common practice that could not cure him, which I had previously judged to be some internal local affection, in some of the vital organs of the body. I opened his body in the presence of a young Surgeon of the British army, and demonstrated the real cause of his death, and also the cause of my failure in curing him. I found gangrenous spots in the pleura of the lungs, the consequences of inflammation of these parts; and I found, also, the small intestines wasted and gangrenous, and almost denuded of their inner coat, which appearances clearly demonstrated the presence and existence of previous general inflammation of the internal vitals. Then I reflected on the imperfection of medical practice, on the defect

of our knowledge of the nature of diseases, concluding, that, if I had bled the man freely, and put him in a warm bath frequently, and administered the carbon of wood to correct the putrid fermentation of the humours in the bowels, in addition to the purges, sudorifics, opiates, blisters, saline draughts, cooling drinks, antispasmodics, alexipharmics, diuretics, antiseptics, tonics, &c. which were employed in the case, I would certainly have had restored my patient. From that day till the present, I never have used the remedies commonly prescribed by writers on medicine, neither have I followed the doctrines of the schools in the treatment of febrile diseases; I determined that no other patient of mine should ever become a victim to the common old treatment pointed out by professors of medicine, and authors of medical books. In the full belief of the doctrine which experience had taught me, that every fever consists of an inflammation of some of the internal viscera or organs of the body, I proceeded, in all cases under my care, to direct my remedies and means to annihilate that local inflammation; and I soon had the pleasure of seeing almost all my patients recover from fevers, in the space of two, three, four, or five days, whereas, according to the old method of treatment followed by my contemporaries, patients laboured a month, six weeks, two or three months, under a violent fever and its fatal dregs, and either died or were restored by the mere efforts of nature, or languished under the irremediable consequences of such distemper, during the remainder of their lives, in misery and infirmity.

Thus it may be perceived, by the foregoing relation of facts, how I came to possess a new doctrine and theory of fevers, and to institute a new method of treatment on the foundation of a sure and certain principle of practice,

deduced from this doctrine, in the use and application of remedies, more rational and successful than appears in any system of medicine ever exhibited in ancient or modern times, as far as I know, by the annals of medicine; and I now come forward to open the discovery for the general benefit of mankind. In doing this, I shall be under the absolute necessity of exposing and rejecting all former opinions respecting the proximate causes or natures of diseases; I shall have to combat the errors of the learned and ignorant, both in the theory and practice of medicine; I shall be forced to reject all the erroneous doctrines of the schools in which I was educated; I shall have to defend my sentiments against all the invidious malignities and contumelies of mine enemies, in essaying the permanent establishment of the rational and experimental practice of these arts, on the basis of infallible principles deduced from and depending on the truths and facts which I have discovered in the nature of these diseases, by experience, observation, reflecting, and reasoning, so absolutely necessary to be known before we can succeed in practice. Many self-confident and ignorant pretenders to the science and art of medicine, are inclined to suppose that no errors exist, in the present theories of the enlightened schools of Europe and America, to combat, in the treatment of diseases, since the rise of that bright luminary of the profession, Dr. Thomas Sydenham, the light of England, and the glory of the nation, who faithfully combated the errors of medicine, and conquered the enemies of the progressive art. But it appears to me that the improvements Sydenham made in the practice, had no influence on the theory of medicine, and, like the new and glorious suggestions of Diocles, produced no effects on the doctrines of posterity, and were exposed to perpetual fluctuations, for

want of the principles of an infallible system of practice, which never could have been changed with the varied opinions of theorists in succeeding ages. Sydenham, in reforming the practice of medicine, still adhered to the old doctrine of the schools, adopting the theory of fevers, that maintain the opinion that fever is an excitement of the blood vessels, produced by an excess of stimulus, which creates what the physicians call an inflammatory action in the system. He also supposed, that a mineral exhalation from the bowels of the earth was an additional stimulus; that a concoction of the humours happened in fever; that morbid matter in the system produced the symptoms of diseases; that putrid diseases were the mere effects of that stimulus, &c.; which theories he imbibed from the books of the ancients, as they were received in his day by the moderns of Europe. These doctrines, so generally adopted, militated against the experimental and mechanical system of Sydenham, in treating all diseases on the antiphlogistic plan of cure; but happy for Sydenham and his patients, that his practice was judicious and successful. under the influence of every error or theory by which he prescribed for diseases. Hence we learn, that neither Botallus nor Sydenham, who have improved the practice of medicine on mechanical principles, have ever advanced one step towards the discovery of the principle, which would have infallibly directed and established the medical practice in the use and administration of their remedies; they were totally ignorant of the nature of febrile diseases, and exposed their method of treatment to the innovations of future ages, by leaving it to fluctuate on the ocean of mere suppositions, or visionary theories, without the knowledge of the principle on which the remedies acted to reduce any one of them. In fact, no physician whose

works I have read, no professor of medicine whom I have heard speak on the nature of diseases, has ever discovered, or even hinted at, the nature of fevers; all have delivered theories, which amount to open acknowledgements of their ignorance of it; or have candidly professed the universal ignorance of all physicians in the world, of the former and present times, respecting the nature of these diseases. And we must conclude that no such a doctrine as I have advanced concerning the nature of fevers, has ever existed in the schools, or among the physicians and people of the prior ages, as far as I can know and learn from the annals of medical history.

After I had published my sentiments on the nature of fevers, a judicious young surgeon put into my hand a number of the Edinburgh Medical and Chirurgical Journal for 1821, that mentions the opinion of Dr. Clutterbuck respecting the nature of typhus fever, where I saw that he boldly advanced the opinion "that typhus fever was an inflammation of the brain, in every given case;" this, indeed, was a grand *advance* towards the discovery of the real nature of fever, and, if he had said the "brain," or some of the internal organs of the body, the discovery of the nature of fevers would have been complete, and established beyond the reach of confutation; but, in merely supposing and asserting the inflammation to be seated in the "brain in every given case," he has exposed his doctrine to the total and final confutation of Dr. Wilson Philip, who published it in the same respectable Journal, and has totally annihilated the glorious influence that such a suggestion is calculated to have on the science and art of medicine. Although Dr. Clutterbuck had been able to ratify his discovery among the nations of Europe, it would not have diminished the value of the

same discovery in America, at one and the same time, without the knowledge of his investigations and opinions respecting their nature ; no, the same discovery would have been made by two physicians, in two distant countries, in the same given time, and the merit would have been equally due to both. But Dr. Clutterbuck's positions and sentiments included two great errors of idea and statement; the one is, the notion that typhus fever always consists of inflammation of the brain in every case, without the supposition that the same affection in any other organ, would produce the same fever; the other is the opinion that the brain is always the seat of the inflammation in that fever, to the exclusion of all other fevers whatever. In this view of the subject, his discovery could have extended to the nature of typhus fever only, leaving the nature of all other fevers undetermined; but, in the view I have taken in my inquiries into the identity of inflammations and fevers, the nature of all fevers and inflammations is completely revealed and explained, in the sight of the world, to the conviction of all impartial and faithful reasoners in medicine.

THE DOCTRINE OF THE NATURE OF FEVERS.

Having thus discovered the real essential nature of all febrile diseases, I proceed, in the second place, to illustrate the doctrine of their nature. The great doctrine of fevers, as I teach it, opens up the nature of all inflammations and febrile distempers; leads us directly to consider them identically the same in essence, symptoms, and cure, and instructs us in practice to strike at the root of all acute distempers incident to men, and guides

our heads and hands in the use and administration of remedies, in conformity to a great maxim of a rational and experimental system of medicine, deduced from, and founded on the unalterable nature of diseases, and the unchangeable laws of the animal economy. This doctrine teaches us never to administer a medicine, nor employ a remedy, without being able to give a solid reason for exhibiting it; and without knowing the certain principle upon which it acts in curing the distemper. It teaches us the infallible knowledge and understanding of the nature of diseases, the intentions and powers of the remedies, the manner and principles upon which these operate to effect the cure of any given disease; not to employ remedies on the supposition of the principles of action, the nature of the distemper, and of the imagined powers of medicines in reducing, mechanically, an unknown disease; no, this is the uncertain system of medicine which has been taught in the schools and followed in practice for 2460 years; the system which has taught men to administer remedies at an adventure, to give medicines in order to try their effects in such and such incurable distempers, without knowing the nature of the diseases themselves, or the principles on which the remedies acted in curing them; a system of experiments founded on the false experience of ages, and observations of innovators on the science and art of medicine; a system of adventures in the practice of a mechanical method of curing distempers, without a knowledge of their nature, of the animal economy, and of the relative virtues of the remedies employed.

This was purely an empirical and mechanical system of practice, founded on no stable principles, maxims, dogmata, or theories, to direct the practitioner. It began among the Hebrews and Egyptians, previous to the days

of Moses ; yea, Rachel experienced the good effects of mandrakes, and Moses and all the priests proved the efficacy of cedar juice and ablution in the cure of leprosy. The experiments of men, in many ages, were recorded in writing, and delivered down to posterity in the fragments of an empirical practice in Judea, Egypt, and Greece, till the days of Hippocrates, when medicine began to assume the form of a rational and experimental system, by the labour of that indefatigable parent of the science and art. In the times of Æsculapius, philosophers were accustomed to write the discoveries, made by experience, on tablets, and to hang them up in the temples, that all worshippers might read and know the cures of their distempers ; so this plan of experimenting in practice has continued to the present day, with very little alteration, effected by the invention of erroneous theories. True, indeed, Hippocrates attempted to establish a rational system of medicine, by introducing the principles of his practice into his methods of cure ; and, the great labours of physicians and authors have only been employed to improve that system, on the false theories which he broached respecting the nature of fevers, and other distempers.

But the doctrine which I teach, directs men to practice medicine by the knowledge of the principles of it, acquired from the discovery of the nature of diseases, the periods of their existence, the condition of the functions, the constitutions of the sick persons, their ages, sexes, habits, and circumstances, in every given case of disease ; which things must all be known and considered previous to the employment of remedies to effect their cure. This system of rational medicine, if it is founded on the infallible principles of practice, will never be liable to fluctuate on the diverse and false theories of men,

in future ages. It will continue to direct practitioners as long as the sun endures.

When I am called to visit persons labouring under yellow fever, for instance, I sit down to inquire into the nature of the disease; discover inflammation of such and such internal organs; estimate the relative degree of excitement produced by the local inflammation; consider the state of the digestive functions; examine the appearances of the tongue, skin, urine, and stools; inquire into the seat of the local affection, as manifested by the situation and violence of the morbid phenomena; into the peculiarities of constitution, age, condition, pernicious habits, and states of my patients; ascertain the exact period of the disease, the use or abuse of remedies that may be employed to cure them; know the present degree of injury done to the mental and animal functions of secretion, excretion, action, motion, sensation, intellection, &c., and from the discovery of the nature of the distemper, &c., in the complexion of these morbid symptoms, I am immediately enabled to judge of the means and remedies best calculated to reduce the local affection, and to quiet the universal commotions produced in the system by it. In this method of cure, founded on these rational principles of practice, I carefully accommodate all the remedies to the absolute nature and violence of every malady. In fact, all success in our method of curing acute diseases, mostly depends on the judgment, knowledge, resolution, decision, diligence, industry, perseverance, penetration, magnanimity, and fortitude of the practitioner, who practises according to their indications in the urgent administration of the remedies employed to effect the cure of every disease under his care. For instance, some cases of yellow malignant fever requires the detraction of two, three, four, or five pounds of blood,

other cases require the mission of eight or ten pounds, besides purging, sweating, cold affusion, &c., to accomplish their mature reduction, in many strong, robust constitutions. Hence we may see how much depends on the knowledge and intellects of the administrator of the remedies proposed in the indications of cure, according to our new method of treating acute distempers, on the general maxims or certain principles of practice, which leads us immediately to direct all our efforts with a direct design and intention to annihilate the primary essential inflammation of the organs, as well as to remove all secondary, accidental, local evils or injuries, which may arise from the violence of morbid excitement, and the presence of a disease in the body, in the different viscera of the head, chest, and belly.

This important doctrine of the nature of fever, therefore, teaches us to build a system of medicine on rational principles, and to institute a method of cure on rational maxims, whereby all febrile distempers can be readily comprehended, easily and speedily cured, during the acute period of their existence, in all their most violent modifications; whereas they formerly and commonly required two or three months to accomplish their cure, and, even then, nature seemed to be the restorer of the sick, in all favourable cases of these distempers. The doctrine of the nature of fevers informs us also, that, according to our new plan, the most vehement fever can be easily reduced and nullified, in the space of two, three, four, or five days, when we are employed, in the acute period of its existence, and at the first invasion of the distemper. It convinces us that the most violent yellow, or pestilential fever, can be as easily and as quickly cured by the judicious practitioner, who fully believes in, and practises according to principles de-

livered in the system and method of cure savouring of this doctrine, as any other inflammatory affection. To evince the truth of the assertion, I might proffer or produce many living testimonies or witnesses of the success of the method I have employed in the curation of these fevers, cured in the short space of three or four days ; but, I presume that no impartial and docile reader, who has ever tried the virtues of the remedies administered, according to the tenor of the principles of this doctrine and method, to all necessary extent and urgency, can doubt the truth of these observations.

No one dare attempt to confute the general position, that all fevers consist of inflammation of some of the internal organs or viscera ; and no person can deny the soundness of the maxim, let blood be drawn copiously and repeated in all cases of violent inflammation, till the disease is subdued, keeping within the limits of one third of the whole blood contained in the body of the sick person. I have proved beyond the possibility of confutation, that all fevers are inflammations in the internal organs ; and, all men believe, that bleeding, purging, sweating, &c. are curative in these distempers ; therefore, the remedies for both must be identically the same. Every practitioner who has tried the method of cure on the principles I have developed to direct my practice, and has used the remedies to the same extent I have employed them, will always be inclined to adopt it, as soon as he satisfies his own mind, respecting its superiority over all other methods hitherto devised by men. Surely to be qualified with medical knowledge and natural endowments to arrest the progress of the most violent of fevers, in three or four days, is more desirable than to be laid under the painful necessity of abandoning their cure to feeble nature, or to give medicines contrary to the

nature of the malady. Bleeding, purging, sweating, and diluent drinks, carried to their utmost extent, in all cases of fever, will never fail, in the hands of every skilful and judicious practitioner, to reduce the most violent inflammation of the internal or external organs of the body; what inflammation of recent existence and presence in the human frame, could remain in defiance of such remedies? could local inflammation, in its acute period, live in the body after the abstraction of its *pabulum*, or the materials of its very existence? we might as well say that fire would exist, rage, and prevail without the natural supplies of material fuel. Philosophers, following the great Newton, may assert, that the whole material and natural world is bound together by the mighty power of attraction, existing in its *centre*, drawing all parts from its *periphery*; but I might with as good reason, and on sound principles, prove that the whole globe of sea and land is kept together by the sufficient *compression* of the circumambient air, as the great irrefrangible bond of nature, on the supposition of their being 15 pounds weight of compressure on every square inch of our globe; and both these opinions might have strenuous supporters, who would equally triumph in their own side of the question; because there are *few* ways and means opened to us, whereby we could have facts, truths, and evidences sufficient to establish the one and evert the other of these opinions. But, in the treatment of the diseases under consideration, experience and reason alone teach the certainties of the things advanced, and repeated observations and reflections confirm the realities and truths contained in the doctrines expressed, by means of testimonies and evidences, which can never be invalidated, and will always continue to impress the senses and intellects of men with credence, conviction and confidence.

In belief of this doctrine, that every modification of acute fever consists in a local inflammation of some of the vital organs or parts of the body, it naturally devolves upon me to explain the nature of that inflammation itself, in its origin, progress and termination, as well as in its absolute constitution, as it exists in the different organs, membranes, textures, vessels, &c., of the body, in order to prepare our way for a more perfect elucidation of the subject, and to conciliate the minds of our readers for accepting the doctrines herein displayed. But as Drs. Hunter and Thompson have successfully executed the greatest part of such a work, I shall only attempt to unfold its relative existence in the compound organs and parts of the human constitution.

The morbid phenomena of *redness, heat, pain and tumour*, perceived in all cases of inflammation, immediately lead us to believe the presence of blood and humours, action and igneous material in great excess, which distend the vessels, augment the animal heat beyond the natural standard, produce fulness and pain of the parts, and excite a general fever, through the medium of consent of actions, motions, sensations and operations. These evident symptoms of its presence do not explain, however, the manner in which the causes operate to create this existence of inflammation, nor the immediate effects of these causes, in the creation of it; and it appears necessary to proceed a step further to illustrate the relative mode of its existence, in the living animal machine, which is liable to be injured by greater and less nocent powers. Inflammation then, considered as a disorganization of solid parts, and a morbid disorder of their functions and operations, in consequence of this local affection, is a congestion of humours, principally red blood in every case, either produced by the causes

which induce a determination of fluids to the parts to be affected, as sudden cold obstructing perspiration, by the mechanical irritation of acrimonious humours, or by local injuries, which produce lesions or obstructions of the vessels of these parts, where the inflammation is to exist, and a general disorganization of their functions, structures and operations. All parts having an excess of sanguineous humours, with an increase of natural heat and action, always swell, become red and painful, hot and dry, in their appearance or sensible condition. On the contrary, all parts suffering a defect of humours, with a decrease of natural heat and action, wither away; the sudden production of these two states produces inflammation or gangrene, as in cases of burns and frozen limbs. Local wounds, suddenly dividing or bruising the vessels and muscular fibres, induce immediate disorganizations of structure, whereby the functions and operations of such parts and organs are impeded, suspended or annihilated, instantly, on the occurrence of the accidents, and inflammation or mortification ensue in consequence of such lesions.

It makes no difference, however, in the doctrine of inflammation, whether this local disorganization proceeds immediately from cold, mechanical irritation and injury, excessive impetus of blood, congestion and acrimony of humours, a determination or stagnation of fluids in the diseased parts or organs, or arises from any other cause, that may create such an affection in them, the nature of the disease or local affection is the same in essence and cure. The tumour and tension observed in simple inflamed organs, consist in a dilatation of the veins and arteries, and an obstruction of the absorbent vessels and exhalent pores, by a superabundance of sanguineous fluid, forced into the capillary vessels by the arteries, and

retained by the recipient veins, by an exudation of lymph into the interstices of the cellular, glandular, muscular, fibrous, mucous, vascular, &c., membranes and substances, causing a proportionate diminution of the energy of the veins and absorbents, whence distension arises. The acute pain experienced in inflammation of all sensible parts, is created by the tension and tumefaction of the parts, incommoding the numerous nerves of sensation by compression or extension. The redness of the parts arises from the transfusion of the red atoms or globules of the blood, in the minutest extremities of the arteries and veins of the inflamed parts. The preternatural heat supposed to exist in the diseased parts, is produced by an accumulation of the igneous principle of the blood in these parts, and by an increase of the action in proportion to the degree of congestion. The dryness of the parts is owing to an obstruction of the exhalents, produced by compression or distension of their tubes.

Inflammation then begins, I presume, from an obstruction of the absorbent vessels and veins, produced by a sudden congestion of humours in the parts affected, attended with proportioned debility of them, in regard to the morbid excess of action in the arteries, inducing stagnations, and accumulation of lymphatic, serous, mucous, synovial, menstrual, salival, seminal, urinal, ocular, lacteal, chylous, pancreatic, bilious, &c. humours, peculiar to the organs or cavities of the respective parts of the body. From the injuries of concussion, contusion, incision, compression, extension, friction, corrosion, combustion, congelation, laceration, and irritation of the natural contextures of the animal solids, whereby all the vessels, nerves, and fibres are so injured and wounded by the violence, that all their natural energy and living

action is lost in the disorganization, as well as a solution of continuity and extravasation of bloody humours are produced in the parts, and inflammation, suppuration and gangrene are the consequences. An obstruction of the veins causes a congestion of blood in the capillary vessels of the parts, which appear red and tumid, by the presence of red globules being forced into them; an obstruction of the lymphatic vessels induces a stagnation of lymph and serous fluid in the interstices of the parts, which appear in a state of distension by the presence of these humours; in short, a diminution of the energy and function of any one system of vessels in an adverse proportion to that of the other, will produce inflammation of the parts where the disorganization occurs; whether the disorder is an unequal distribution of blood, or an impediment of its return, or an obstruction of absorption, perspiration, and exhalation.

All this is inferred on the supposition of the humours of the body being pure and plastic, and the natural organization of the textures of the different parts being sound; but, when any extraneous bodies, or matters, or substances, as the oxide of arsenic, the oxymuriate of mercury, morbid bile, and gastric juice, pancreatic fluid, corroding acids, venom of serpents, scorpions, asps, centepedes, mosquitoes, the venereal virus, poisonous pus, cantharides, grains of sand, acrimonious matter of the blood, combustion, or congelation of parts, &c. inducing mechanical disorganization, corrosion, diseased action or destruction of the texture and vitality of the living solids, or constantly irritating the sensible parts, constituting inflammation of the organs that are the immediate subjects of their operations and actions, will induce morbid excitement of the blood vessels. At the same time, Violent labour, exertion, or passions, will create an in-

equality of the distribution of the blood and humours in the imparting arteries, recipient veins and absorbents, in proportion to the expending excretories, secretories, and nutrition of the body, and will induce secondary or sympathetic inflammations from the mere violence of vascular action. A sudden and great revulsion of the humours from the external to the internal organs of excretion, secretion, respiration, menstruation, intellection, &c., is the manner of the operation of the efficient causes in inflammations, generated by the application of cold to the heated bodies of men and other animals. Drs. Hoffman and Cullen supposed the proximate cause or nature of inflammation to be an increased action of the blood vessels of the parts, in conjunction with a spasmodic stricture of the capillaries or the extremities of vessels. Macbride invented another hypothesis, averring that inflammation, besides the increased action of the blood vessels granted, consisted in a diminished resistance to the course of the blood. Mr. Latta invented another theory to explain the doctrine of inflammation, in direct opposition to the two above mentioned hypotheses, namely, that it consists of a deficiency of action, and a palsy of the vessels affected, instead of a spasmodic increase of action, and attributes the swelling of the parts to a stagnation of blood: and these two hypotheses divide the medical world at the present day. But both of their doctrines comprehend truths and errors, and are equally insufficient to illustrate all the phenomena of inflammation, which is a relative and complex condition of morbid action, motion, and sensation of the parts affected.

THE

DESCRIPTION AND CURATION

OF THE

GREAT PESTILENCE OF AMERICA :

OR,

The First Modification of Compound Inflammation.

HAVING finished the general history of all Epidemic and Endemic pestilences or distempers, which include all febrile diseases incident to men and beasts, we shall now proceed to deliver the particular histories of those diseases themselves, in all their symptoms and combinations, as they immediately arise from their efficient causes, existing in their different degrees of violence and influence, in the various climates of the earth ; and shall therein institute the surest methods of curing them in all their varieties of aspect and virulence. To effect this great design we have deemed it necessary to commence this most important branch of our subject, or great division of diseases, by the history and cure of Yellow Fever, which, according to our plan, is one of the most rapid and fatal modifications of compound inflammation, known among the inhabitants of this world ; and I have called it the First Modification of complex inflammation in the numerical order of diseases, in our first division. But, previous to our entering on the particular illustration of the symptoms, nature, causes, progress, distinction, prognostication and curation of this formidable malady, we shall review the various opinions of preceding

writers on this disease, in order to prepare the way, in several premises, for the unavoidable acceptation of the irresistible truths and doctrines necessarily advanced in its explanation.

To show, therefore, how far all preceding writers have advanced our knowledge of this dreadful distemper, and how far they have erred in their views of this subject, in their various and different publications, we shall delay a little, to examine the opinions and sentiments of those authors whose writings on Yellow Fever have come to us, and merit particular consideration, either on account of their arguments for or against the doctrines and practices which, by experience and observation, sound reason and judgment, have been found to be true and successful in the explication and treatment of this modification of compound inflammation. This mode of elucidation will divide all writers on this subject into two great classes ; 1. The advocates of contagion and importation ; 2. The defenders of the domestic origin and production of this pestilence, in all places and regions of the earth, where it happens to rage and destroy the lives of men.

This modification of compound inflammation, commonly called Yellow Malignant Fever, is a disease which is endemic in all hot climates of both hemispheres of the globe, and is not contagious, as we have proved, in any region of the earth. It prevails in various parts of Asia and America ; especially in Siam, Batavia, Bengal, West Indies, Southern States, on the banks of the Mississippi, in the Archipelago, where it rages with different degrees of violence, according to the relative powers of its exciting causes, in the various climates and situations of those extensive dominions. It frequently prevails in the cities and towns on the Atlantic coast, as New-York, Philadelphia, Baltimore, Boston, Waterbury, Hartford, Bethlem, New-Ha-

ven, &c. ; annually occurs in Savannah, Charleston, New-Orleans, Natchez, Mobile, &c. and appears all over the Southern States, as well as in Mexico, &c. as the common endemic pestilence of those countries, in the autumnal seasons of the year. It prevails in the various islands of the Ægean Sea, according to the relation of Hippocrates ; often happens in Minorca, according to the narration of Cleghorn ; annually occurs in Jamaica, according to Jackson ; and we have met with it in Bengal, &c. in summer and autumn, when sudden changes of the weather from drought to moistness, from heat to cold, seemed to characterize the days and nights of the season, as the usual endemic compound inflammation of all warm and sultry climates.

This modification of compound inflammation, in former ages of the world, was called Ardent Fever by Moses ; Causus, or Burning Fever, by Hippocrates ; Bilious Remittent Yellow Fever by Rush, and Malignant Yellow Fever by most of the Physicians of the present day. But, as all those names given to the disease do not designate, in any degree, its real nature or essential character, we have determined to use the name which will always signify its unequivocal nature, and will lead us directly to the best method of curation, whence our fellow-men will derive the most substantial benefits, in being delivered from the iron grasp of the most formidable of all diseases. We may easily perceive, therefore, from the nature of the malady, that all Europeans, who are strong and robust, blooming and full of blood, are most subject to it, on their arrival in those hot regions where it is the endemic disease. The emigrants newly come from England, Scotland, Ireland, Germany, &c. are generally seized by it in the summer and autumn, especially sailors, soldiers and labourers, who are most exposed to the efficient causes of this tremendous distemper.

Women, who are not exposed to the burning heats of the day and cold dews of the night, not subjected to exhausting labour, nor addicted to an excess of spirituous liquors, are less liable to its invasion than men, who are thus exposed and subjected to these exciting causes. The children are less obnoxious to it than adults, but seldom escape the destructive ravages of the dysenteries and lenteries of such climates. All sanguine temperaments, and drunkards, and gluttons, are generally carried away by it; because all these different persons are more easily subjected to inflammations by the great and sudden changes of the temperature and condition of the atmosphere. Lamentable to tell how many thousands of blooming emigrants have arrived into America and West Indies in good health, and ere a month has elapsed have been numbered among the dead by this destroying malady.

Great differences of opinion have existed, respecting the origin of this modification of compound inflammation, or yellow malignant fever of authors; some Physicians asserting, that its seeds have been, and are annually imported into the country, from some other distant region of the earth; others declaring, that it originates in the country and arises from putrid and noxious exhalations. Both these opinions are equally false, considered as universal propositions, which tend to support the doctrine of contagion and importation, or to defend its domestic production by noxious exhalations of putrid animal and vegetable substances, or marshy vapours, excited by the heat of the sun. But it will not be difficult, after what we have premised in our History of Pestilences, to convince all candid and impartial inquirers after truth on this important subject, that the first is a mere supposition and a delusion of some visionaries, and that the second opinion is a gross er-

ror. This modification of inflammation can neither be derived from any foreign region, nor does it arise from noxious effluvia, existing in our cities and villages. If the former was true we could never see the disease, unless some vessel imported it from a distant country, and that could not be done in Savannah and New-Orleans, in Charleston and New-York, in Philadelphia and Boston, in the same year, month, day, season, or time, according to the manner in which we observe it to happen in those different places at the same time and on the same day ; and if the latter was true, then the disease would rage in dirty cities and villages only, or in the filthy parts of them, which is contrary to all the results of our experience and observations. For we observe the disease to occur in autumn, without the arrival of any ship from infected places ; we observe the prevalence of the disease in the most salubrious parts of cities, and the absence of it in the most noxious hovels and streets. We also have witnessed the non-propagation, or non-communication from person to person, in the examples of those who have nursed the sick, and even slept with their relations in yellow fever, and have never been infected by the disease. We have seen that those removed to the country have never spread the disease ; no, not among the families in whose houses they lay during their sickness. And to put this futile controversy for ever to rest, we have only to evidence the real nature of the malady, which will preclude the possibility of its being contagious and communicable, in any given case ; for inflammation cannot be propagated from one person to another, by any human effluvia that can possibly arise from the bodies of the sick in any country or situation under the canopy of heaven.

It would be satisfactory and conclusive on the head of the contagion or infection of yellow fever, to give an account of the rise and progress of this erroneous doctrine of

the contagious nature and communication of febrile diseases, which I shall prove, in the subsequent pages, to be compound inflammations ; but as I have done this in my History of Medicine, I shall only mention the origin and continuation of the adoption of this doctrine in the case of yellow malignant fever. Dr. Henry Warren of Barbadoes, the disciple and contemporary of Dr. Richard Mead of London, the great contagionist of England, is the first, (I have read of,) that attempted to prove the contagiousness and importation of the malignant bilious yellow fever of the West India Islands, which prevailed there in 1733. He imbibed the doctrine of contagion from the opinions of the schools and Physicians of Europe, delivered or communicated to him respecting the nature and supposed propagation of the plague of London, Egypt, Levant, &c. and was under the impression that the fever of Barbadoes and other West India Islands, was of the same nature as the pestilential fever described by Sydenham, that prevailed so long after the great epidemic pestilence of London. In this error he was confirmed by the authority and sentiments of his master, the late Dr. Mead, who adopted the false opinions of Dr. Hodges, who asserted, that the plague of London was imported from Holland, which was carried to them by bales of cotton imported from Turkey, as the historian Thucydides has supposed the plague of Athens to be derived originally from Upper Æthiopia, through Egypt and Persia, into the territories of Greece. Since the days of Prosper Alpinus, this doctrine of contagion has gained ground among the theoretical part of the profession, as we have already seen in a former part of this work, and Dr. Warren has espoused the cause of those contagionists, on the grounds of the yellow fever being the same as the plague, which has so often prevailed in various parts of Europe and Asia. He supposed that the fever of Barba-

does in 1724 was introduced by the Lynn man of war, from Martinique, and was a second time conveyed into the island in 1733, about the Christmas holidays, from the same place, in the body of an English Surgeon, Nelson, who died of the disease a few days after his arrival in Barbadoes. He also imagined, that the contagion of that malignant fever was introduced into Port St. Pierre from Marseilles, by the Provencale fleet, which brought bales of goods from the Levant, the supposed nursery of all pestilential diseases. Dr. Warren, in this case, founded his doctrine of the imported contagion of that fever of Dominique, on the mere verbal report and supposition of Mr. Nelson and another gentleman, that resided at Martinique, who related the wonderful stories of the infection being received from the ships of that fleet. "Upon opening those bales of goods at Port St. Pierre," says the reporter, "many of the people employed in discharging the cargoes were instantly seized; some died suddenly, others in a few days, and some lingered for a long time; and the contagion spreading, made great havoc from the beginning. The distemper had just considerably abated, when suddenly another Marseilles vessel arriving, brought it back a second time, with greater rage and violence than before;" so he most irrationally accounts for the prevalence of the malignant fever of the West Indies, the endemic disease of the country.

Dr. C. Chisholm asserts, that the malignant pestilential fever of Grenada was introduced by a ship from Beulama, in 1793, and has spread through all the West India Islands, and raged with uncommon violence for several years after its supposed introduction from Africa in the Hankey. This assertion of Chisholm was the mere effects of a connivance with the malicious Grenadians, who attempted to ruin the new colony of Beulama, whence commodities of the prime articles of exportation from the West Indies would have

been imported into England by an association of gentlemen, who undertook to counteract the trade in human flesh. This false report had the effect ; their design was frustrated, and a free colony was prevented, in consequence of that malicious rumour and malignant falsehood, so assiduously circulated by the invidious Grenadians and Dr. Chisholm, who sacrificed all conscience, honesty and candour, on the occasion. Dr. James Walker of Jamaica, imbibes the error contained in the false report, and supposed the same fever, in the same year, to have been imported by a ship from Grenada into Port Royal, where it raged for three or four years. Indeed all the West India Islands were infested with the same disease in the same years, and this was the endemic fever of those islands, and we must conclude that contagion could not have been conveyed into all those places at once. But to be convinced of the wicked rumour and falsehood of the Grenadians on that occasion, you have only to read the report of the respectable association, which flatly contradicts and repugns the false statement of Chisholm in a most satisfactory manner ; for, in speaking of the pestilential fever, which prevailed in the Island of Grenada in the years 1793 and 1794, Mr. Paiba has furnished us materials to establish the following facts :—"The pestilential diseases which, within a few years, seem to have prevailed with uncommon mortality in many of the principal towns of the United States and West Indies, have attracted universal attention, and have conferred an unexpected, and perhaps undue importance on the question, 'whether is yellow or pestilential fever, as it has appeared in this country since the year 1790, a disease introduced or imported from abroad, or one generated among ourselves by local causes?' The advocates for the reality of importation, in every instance of the prevalence of the fever within the U. States, maintain, that it is a disease of a specific contagion,

the product of other climates, and incapable of being generated in our own. In opposition to this sentiment, many publications have appeared in Philadelphia, in New-York, and in various other places, till the public mind has become almost weary with discussion. It is not intended to renew it at present. A single point only, in the great subject, is meant to be elucidated. The present inquiry is limited to the examination of the evidence relative to a single instance of the prevalence of the pestilential fever.

The friends of the doctrine of foreign derivation, appear to have relied on no other authority with more confidence than on that of Dr. Colin Chisholm. It has become a sort of fashion among them to refer, with an air of triumph, to his testimony, as exhibited in his publication concerning the pestilential fever which prevailed in Grenada in the years 1793 and 1794, especially in the former, and which he pretends to have been brought thither in a ship called the *Hankey*, from the Island of Beulama, on the coast of Africa.

But, although this writer's account of the origin of the disease be admitted for truth, it would by no means decide the question as it relates to the United States; still, before such admission is granted, it is necessary to inquire to what degree of credit it is entitled; whether Dr. Chisholm has carefully collected and displayed all the facts concerning the fever in question, and whether he may not, from inattention, or ignorance, or design, have materially mis-stated or withheld some important articles of information. If it can be proved that his history of the Grenada fever is erroneous, from either of these causes, the arguments in favour of imported contagion will derive no assistance from what he has adduced. To show that his account of the origin of that disease is erroneous, and not to be depended upon, is the design of the present observations.

Towards the close of the year 1791 a number of gentlemen, in England, associated for the purpose of forming a colonial establishment at Beulama. The general objects of this colony were to promote civilization and knowledge among the natives of Africa; to effect a substitution of the commerce in its commodities, for the disgraceful traffic in its inhabitants; and to dispose the people of that unhappy country to peace among themselves, and to husbandry and the useful arts. Its particular object was to raise cotton for the Manchester market. Some of the respectable men in England engaged in this plan, either simply as purchasers or proprietors and colonists; and after a general meeting of the subscribers had elected a governor and council to manage the affairs of the colony, the governor and council appointed the following gentlemen as Trustees for the association, to remain in England:—Paul Le Mesurier, M. P., Lord Mayor in 1794, Sir John Riggs Miller, Esq., Col. James Kirkpatrick, David Scott, Esq. M. P. Moses Ximanes, Esq., George Hartwell, Esq., men of respectability, who had engaged in the enterprize. The colonists departed in the *Hankey* and *Calypso*, met with great reverses; they left the island and arrived at Sierra Leone; many sickened with dejection, and hardships and exposures, intermittent and remittent, and ardent fevers and fluxes, in which yellowness of the skin and black vomit appeared in many of the sick, and all the colonists died. The ship sailed from Sierra Leone and ultimately arrived at Barbadoes and remained a few days; sailed again and touched at St. Vincent, and at last arrived at Grenada, after the 19th of March, a month after the time fixed on by Dr. Chisholm, designed no doubt to make the fraud complete in the eyes of the world. During her stay at Grenada, Capt. Remington having visited the *Hankey*, and being wet for a day and a night, and having slept in his wet

clothes, was seized with fever from these causes, as Mr. Paiba, one of the council of Beulama, has declared, in opposition to the gross misrepresentation of Chisholm. The following extract from the trustees of the Beulama Association to a meeting of the subscribers, which may be found in *An Essay on Colonization*, by C. B. Wadstrom, published in London, 1796, will set the imposition and fraud of Chisholm and the Grenadians in the clearest light. "Having thus stated the proceedings of Beulama to the 16th of March, 1793, it is necessary to remind the association that, about that time the subscribers here had several meetings to consider what could be done for their friends at Beulama, &c. About the same time the Hankey, Capt. Coxé, arriving from Grenada with cotton, sugar, &c. an extravagant, unfounded and malicious rumour was raised, that this ship had brought the plague from Beulama to Grenada, and thence to England. It might easily have been ascertained, that the mortality at Grenada, while the Hankey was there, was owing to one of those disorders to which the West India Islands are unfortunately subjected. But, so flaming was the zeal of the Grenadians against the abolition of the slave trade and the free colony at Beulama, that they employed every illiberal art to prevent Captain Coxé from getting a cargo at Grenada. But their malice did not end here; they sent home representations, or rather misrepresentations, respecting his ship, which were so strenuously supported by the West Indians, that government thought proper to put the Hankey under quarantine, and to have her cargo unloaded and examined before it was brought up the river. Every examination proved the falsehood and malignity of the report; yet several months elapsed before the owners could unload their ship. Lightermen, wharfingers and lumpers, all had caught the West India fever; all believed, or pretended to believe, the imposture.

Grave citizens and official men were not ashamed to countenance the wild opinion ; magistrates and members of the corporation of London, were applied to for their influence with government, to avert the impending pestilence ; and so successfully was the deception managed, that, on the famous 9th of November, a citizen of the greatest respectability, then master of one of the first city companies, forgetting that his sole province on that day was to dispense mirth and good cheer, sent to the lord mayor and aldermen, then on board the city barge, a representation of the alarming consequences that would ensue, if this terrible ship and cargo were not destroyed ! The *alarmists* gravely asserted that *all the Hankey's crew had died, and that the captain was dying*. It is true that Captain Coxe almost died with grief at the report cruelly circulated respecting his ship ; but it is equally certain, that *not one of the crew died*, either on the passage from Grenada, or in the river. The calumniators, however, had in view another object than that of truth ; and their success was such as might gratify the most malignant spirits ; for they had nearly caused the death of a man who had never offended them, and materially hurt the property of the ship's owners ; and, what must have been still more pleasing to them, greatly injured the Beulama Association. The prejudices thus industriously raised against the colony at Beulama, and which, from the want of information, it was (at that time) impossible to repel, deprived the trustees of all hopes of success, in then applying for a charter. They preferred waiting till the torrent of malicious or ignorant clamour had spent itself, and till time and undoubted intelligence should confirm or contradict the reports. The prejudices against Beulama, rendered it exceedingly difficult, if not impossible, to succour a colony *then deemed pestilential*, and there can be no doubt, that this was one great object of the ca-

lumniators." On these circumstances depend all the false reports of the Grenadians and people of England! On this imposture all the strength of the arguments of Dr. Chisholm, in favour of imported contagion, depends! and on this deception the doctrine of contagion rests, as it is supposed by all the contagionists, since the publication of his work on the fever of Grenada, so famous for the promulgation of the false doctrine or contagion of yellow fever. Dr. George Davidson, of Martinique, readily imbibed this false opinion, and asserts, in his letter to Dr. J. Mease of Philadelphia, that the disease or yellow fever can be produced both by putrid exhalations of marshes and propagated by contagion; ~~suppositions~~ ^{suppositions} seemed to teach him the one, and Chisholm's false narration of the origin of the fever of Grenada taught him the other erroneous opinion.

Dr. James Walker of Jamaica, believed the same false reports and misrepresentations, and assigned the origin of the fever, which prevailed in that island at the same time and years in which it prevailed in Grenada, (1793, 4, and 5,) to a ship from Grenada, which he supposed had introduced the contagion from that island into Port Royal.

Dr. Lining of Charleston, and Dr. David Hosack of New-York, are two of the most strenuous advocates of the contagion of yellow fever in the United States of America. They of course adduce the authorities of all the contagionists of Europe and America, to sanction their adoption of this error for an established truth, and endeavour to support this doctrine of imported contagion by the false testimonies of the inventors or believers of it, without the infallible evidences of experience and observation, had and made in the places where the disease happens to prevail. They attempt to build their arguments on the opinions of Chisholm, Cleghorn, Clarke, Pringle, Davidson, Walker, Lind, Bianchi, Mead, Warren, &c.; but these men have

so deceived themselves, and imposed upon the understandings and credulities of other men, by their specious relations and representations, and their opinions have been so successfully combated and defeated by the infallible experience and observations of Hillary, Huck, Hunter, Hector Maclean, Jackson, Borland, Pinchard, Bancroft, Johnson, Scott, Rush, Miller, Caldwell, Webster, Smith, Seaman, Buel, &c. that we have deemed it superfluous to add any testimonies or evidences to the truths of the sentiments of those, who believe in the sound doctrine of its domestic origin. A grievous error of opinion, respecting the real causes of yellow fever, appears also to exist among the defenders of its domestic origin; which, although it is not so pernicious and injurious as that imbibed by the advocates for foreign importation of the contagion, leads practitioners to false conclusions in instituting the methods of curation. The error to which I allude, is the opinion of its being solely produced by marsh effluvia or noxious exhalations and vapours of new made ground, putrid animal and vegetable substances, entertained by Rush, Miller, Bancroft, and all other writers who ascribe the causes of yellow fever to the influence of such vapours, as we shall prove, in our relation of its causes, in a subsequent part of this description. And we have no occasion to produce any evidences or testimonies to prove the non-contagiousness and non-importation of yellow fever, as the arguments afterwards employed to evince its real nature, and the facts adduced to attest the certainty of that nature, will for ever explode all those false opinions, which some Physicians entertain on the basis of mere suppositions or false relations; but we shall conclude this part of our subject by the following conclusive positions.

1st. No discerning and independent Physician, who can think and judge, observe and reflect for himself, especially

if he has had opportunities to witness the effects of the seasons and conditions of the weather on the living bodies of men and beasts, can ever believe the ridiculous stories of contagion in epidemic distempers.

2d. No practitioner of Medicine in the West or East Indies, Egypt, or America, who has allowed himself to observe and reflect correctly, can ever deny the annual prevalence of this yellow fever, as the endemic of those regions, where its causes, in summer and autumn, continually exist to affect the bodies of all living animals, especially the human species, with whose diseases we are most conversant.

3d. No experienced Physician, who has observed the disease predominating in many distant cities and villages, or countries, at the same time, in the same year, season and period, can permit himself to believe the doctrine of imported contagion, when he sees that no communication could possibly exist between those distant places, either by ships, travellers, commerce or winds, to carry any imagined contagion to them in the same instant of time.

4th. No honest Physician can possibly harbour the opinion of its being infectious in any given case, when he has observed the sudden and great changes of the weather in the hot and sultry seasons of summer and autumn, to produce the disease in all its various modifications.

5th. No accurate observer and investigator of the causes of this disease, who has discovered the real nature of febrile diseases in general, and malignant yellow fever in particular, by repeated dissections of the bodies of those who have died of them, can entertain any doubt of its nature being inflammatory, in all its combinations and gradations.

6th. No Physician thus experienced, and conversant with the real nature of yellow fever, can hesitate to insti-

tute that method of cure, which will be always beneficial and successful in all cases of compound inflammation.

7th. All candid, impartial, learned, skilful and faithful men, will openly declare their opinions and sentiments to the world, in defence of the truth of the sound doctrines herein advanced, respecting its causes, nature and cure, against all errors, false notions and representations of the arrogant, partial, self-interested, ignorant, or malignant opposers of those principles and practices, which confer the most substantial and lasting benefits on their fellow-men.

8th. No real evidences or testimonies can be adduced to establish the false doctrine of contagion in yellow fever ; but all true naturalists, physicians and historians, have, in all ages of the world, believed the influences of climates in producing diseases peculiar to the seasons and conditions of the elements, in all regions, where they happen to prevail among men. Men, however, may advance suppositions so artfully and plausibly, that common readers would be apt to receive them as well attested facts or truths, to which they have not the most distant claim ; and may even represent suppositions as such in many cases, where detection seems improbable or impossible, for want of information on that subject.

9th. All the necessary testimonies of men and our own senses, appear to confirm the doctrine of its domestic origin, and all seem to unite in establishing the incontestible truth contained in this doctrine, which maintains the sentiments of being produced by intemperate seasons and weather, sudden and great changes of the temperature of the atmosphere, in combination with other causes, connected with the prudence or imprudence of its subjects, that all seem so fruitful of the seeds of death in all hot climates.

The Causes of this Pestilence or Modification of Compound Inflammation.

Having now finished all we intend to say, respecting the opinions of modern writers on the origin of this disease, and having clearly demonstrated their ignorance of its derivation, we shall now proceed to unfold and illustrate its causes, as we have discovered them to exist in the seasons, atmosphere, or weather, with all its changes, together with the exposures of persons to the inclemencies of these elements. In the prosecution of this our design we have deemed it most expedient to investigate all its causes, as they exist in nature, to evince, from thence and repeated dissections its absolute essence and combinations; and have considered it necessary to commence the explanation of its real nature with an illustration of its causes, in conformity to our plan of opening up the great subject of its essential character, as these causes appear to exist in this natural world. From what we have long believed in this important subject, we are fully prepared to advance the premises, that no single cause in this natural and material world, is sufficient of itself to produce this compound inflammation, or complexion of disease, in any of its various modifications; that neither the vapours and exhalations of swamps and marshes, nor the noxious effluvia of filthy cities, nor the putrid air of ships, houses, or places, are adequate to generate this complex malady; that neither exhalations of new made ground, nor the influence of human effluvia alone, can produce the disease in any given case; yea, more, we shall immediately show, that neither heat alone nor cold alone, moisture alone nor drought alone, will ever create this inflammatory disorder of the human frame. There must be a combination of these causes in continuance and succession,

in occasion and variation, in virulence and circumstance, to induce these dreadful modifications of complex inflammation, or complexions of morbid phenomena ; a conjunction, we aver, of those causes, which we will now endeavour to explain in order, as they appear to operate on the bodies of men, under all these relations and circumstances, is necessary to effect these combinations of disease.

The first great predisposing cause in nature of this inflammatory modification of disease, signified by the appellation of yellow fever, is the influence of the heat, directly emanating from the sun in solar rays, or indirectly reflected from the heated earth and surrounding bodies, in absence of the cooling influence of the septentrional, zepherial and anniversary winds, which commonly refresh the inhabitants of all tropical regions. The burning heat of this igneous luminary, accompanied with long drought, will always predispose the constitutions or bodies of men, existing in such conditions of the atmosphere and seasons, to all these modifications of compound inflammation, or yellow bilious fever, in all its forms, especially the droughts and sultry heats of summer and autumn, which seasons are so very productive of violent and acute diseases. The mode in which heat and drought operate on the human system to induce compound inflammations in the body, is by predisposing the person to the influence of sudden cold, by causing copious and profuse sweats, diminishing the secretion of urine in proportion to the excess of perspiration, drying the internal organs, retarding the natural motion of the intestines, producing a redundancy of bile, creating great thirst, emaciating the animal frame, untuning the vital spirits, reducing the strength and vigour of the constitution in a remarkable degree, whereby the pores of the body are liable to be obstructed suddenly by cold, a superabundance of bile is retained in the system, constipation of the bowels, indigestion of the

stomach, languor and debility are produced, and the body completely prepared to receive the unfavourable impressions of sudden and great changes of the temperature and condition of the atmosphere, which always create congestions and inflammations of the internal organs.

So every person thus drenched in continual sweats, and weakened by long sultry drought, supposing him to enjoy perfect health at the present moment, is fully prepared or predisposed to receive the injurious impression of the efficient cause or causes, that may operate on the human frame in succession and occasion, namely, the dampness and coldness of nocturnal air, or sudden dry coldness of the unexpected north winds, or chilling coldness of rains, currents of air, damp cold of cellars, houses, bedchambers, bathing in water, accidental immersion in rivers, immediately applied to his predisposed body, so ready to be affected by these exciting causes, whence all compound inflammations proceed. I have attended many persons who were suddenly seized by this compound inflammation or yellow fever, both in the East Indies, in ships, in America and in Britain, immediately after an evening cold bath, falling into the river, exposure to rains, or a sudden and great change of temperature from heat to cold, in the summer and autumn. I have also attended many persons who contracted the disease by sleeping in damp cellars, on the cold damp ground, in the open nocturnal air, after copious perspiration elicited by the heat of a sultry day, after great fatigue, debauchery, intoxication, a surfeit, and a sudden transition of temperature of the sky, &c.

It is universally believed by all wise naturalists, that great and sudden mutations of the weather, in the seasons of summer and autumn, always act injuriously on the animal body, and induce these most deadly of all complex inflammations. But a continuance of drought and heat will

produce compound inflammation or yellow fevers, in no other way, than by predisposing persons to be affected by colds, which never fail to create congestions or affections of some of the internal organs or entrails; and these determinations to the internal parts can never happen, during the existence and prevalence of intense heat, constantly and steadily acting on the human frame, excepting in the brain, in the form of an insolation, apoplexy, swooning, fainting, or convulsions, of which we shall immediately speak. For cold, dryness or dampness, must succeed the great heat, before inflammatory affections can be produced in the animal constitution. Intense heat alone, however, will induce other affections of a dangerous nature, independent of the concurrence of cold, as obstructions of the intestines, indigestions, head-aches, congestions of the spleen, and liver, and brain, emaciation, languor, cutaneous leprosy, and elephantiasis, &c. which generally prevail in all hot climates. For men walking in the sun, or labouring under a heat of 120 degrees power, in the summers and autumns of Asia and America, frequently sink to the ground in death, as instantaneously as if they were shot; because the great heat ferments and rarefies the blood, expands the vessels of the body, increases the velocity of the circulation, diminishes the secretion of urine, and the excretion of bile and ordure, and causes unequal distributions of the blood, or induces congestions in the tender vessels of the brain, completely inundating it with an excess of blood, whence sudden death ensues. This sudden inundation of the brain has been, from the writings of Rush, attributed to the drinking of cold water in a heated body, and still continued to be ascribed to the same cause, until I began, in 1817, to explode the opinion and disprove the practice of Physicians, who had imbibed the error and followed the prescription of that celebrated, and, in this par-

ticular, mistaken practitioner ; who, by recommending a random remedy on a false principle, has been the indirect instrument of destroying the lives of many hundreds in the United States of America.

But it requires the concurrence of sudden cold, alternating with great heat, to produce epidemic cholerae, fevers, dysenteries, &c. in their varied modifications of compound inflammation. To be convinced of this absolute fact we have only to advert to the seasons and constitution of the seasons, in the variations of temperature and state of the atmosphere, in and from which all these diseases arise. The superabundance of bile, effected by the heat, may cause slight indispositions, some cases of bilious vomiting and purging, indigestions, &c. in conjunction with bad fermentable food and drink ; but great and sudden vicissitudes of heat and cold, dryness and humidity, seem to be absolutely necessary to induce all kinds of compound inflammations, as yellow, malignant, and pestilential fevers of authors, cholerae, dysenteries, eruptive diseases, &c. whether they should be epidemical or sporadical distempers, in countries or provinces. Intense heat, however, operates more powerfully on one constitution than on another, as we have observed in the sanguine and phlegmatic, the choleric and nervous temperaments, the full and spare habits of different persons. It also acts most violently on persons who have never been accustomed to a high degree of heat, such as emigrants from Britain, Ireland, Germany, Sweden, Denmark, &c. The intense heat of the sun rarefies the blood and humours of these strangers to the climate, expands the vessels of their frames and accelerates the circulation in an excessive degree, without inducing the usual discharge of proper sweating to reduce the animal temperature and lower the high gradation of sanguineous temperament, common to them in cold and temperate

regions, and ultimately produces deep congestions of the brain, insulations, convulsions, &c. There is something peculiar in the constitutions of people from a cold climate, says a compiler of medical opinions and doctrines, which renders them more obnoxious to fever in a warm climate than natives, or those inhabitants who have been accustomed to it by a long residence; but unfortunately he has not told us what this something is, or wherein it consists, nor what condition of the body is this peculiar predisposition to violent and mortal fevers, fluxes, apoplexies, cholerae, &c. Dr. Mackittrick has noticed the heat of the bodies of new comers in the West Indies, to be three or four degrees higher than the temperature of the bodies of the natives, and to this he ascribes the predisposition of new comers to yellow fever: but this observation still leaves us in the dark about the nature of the peculiarity; how this higher degree of animal heat is produced and preserved, without reduction, in the same surrounding medium, he has not explained to us, nor has he described in what it consists; hence I shall endeavour to unfold the mystery, on the principles to which we have already alluded in a preceding page, and to explain this latent peculiarity of the constitutions of strangers or emigrants, which render them most obnoxious to this deadly malady. This predisposition consists in the greater plenitude, plasticity, richness, and abundance of blood, the rigidity and vigour of the muscular fibres, an universal tension and fulness of the whole system, and the suppression of urine and stool, which render them fit for the nature of a cold climate, and altogether unfit to endure the sudden and greater heat of a hot climate, being incapable of undergoing the rapid change in the functions of secretion and excretion necessary for the preservation or fruition of health in a tropical region. So the increased action of the vessels produced by the external heat, is not accompanied with in-

creased excretions, proportioned to the excess of drink and abundance of blood, which it requires in all cases of excitement, to reduce the animal temperature. The use of spirits in their drink to an excess, and costiveness induced by the external heat, often adds to the stimulation, that seems to be the immediate cause of sudden deaths in walking and labouring under the solar rays. If we should suppose that a robust and strong person sweats profusely, and enjoys that reduction of temperature, which renders him comfortable, and preserves him from all sudden invasions of the disease, yet the same predisposition exists in him to it on the changes of the temperature of the atmosphere, on the principle of sudden obstruction of perspiration being more injurious to his constitution, which is more liable to inflammation than a meagre and slender person, that is prepared to undergo any change of weather in existence. In short his bowels are costive, his urine is suppressed, his thirst augmented, the circulation accelerated, the animal heat increased in a greater degree than he can bear, a fever is excited, to the great oppression of the brain, lungs and heart, and in the course of days or months, according to his excesses and exposures, will fall into disease of the most irremediable nature.

I have always observed, and am now inclined to think, that all general distempers of hot seasons of the year, in tropical climates, proceed from the great and sudden vicissitudes of the atmosphere in these seasons, as great coldness and dampness of the weather rapidly succeeding intense heat and dryness; or reversely, great transitions from heat to sudden cold and damp, which is the most injurious of all the mutations of the weather, to persons previously prepared for the impressions of such variations of the temperature and state of the surrounding medium, in relation to the corporeal functions at the time of receiving the im-

pressions of cold. For instance, the long drought, and great heat induce constipation of the bowels, a superabundant secretion of bile, an accumulation of noxious excrements, openness of the pores of the body, indigestion, languor, lassitude, and profuse sweating, &c. ; and the sudden cold acting on such a predisposed or weakened body in producing the very contrary effects, namely, looseness of the bowels, obstruction of the pores, &c. all the humours of the body are determined to the internal organs, whereby congestions and inflammations of the vital parts, glandular obstructions, and direful fevers are produced, to constitute every modification of yellow fever.

Dry coldness of the atmosphere rapidly succeeding a moist hotness, is the most productive of acute febrile diseases or compound inflammations. A cold dampness of the weather is most fruitful of membranous inflammations and slow fevers, as catarrhs, sore throats, rheumatic affections, glandular obstructions, pulmonary and intestinal fevers, &c. But the manner in which they both operate is nearly the same, namely, to obstruct the copious perspiration, to constringe all the surface of the body, to determine all the fluids to the internal parts, producing stagnations of humours in the glands, cellular tissues, mucous membranes, bursal and synovial cavities, the medullary substance of the brain, spine and other parts, and inflaming muscular structures and particular organs of the chest and belly, whence all the phenomena of fevers or compound inflammations proceed in all their varied combinations. Dry cold, however, strikes deep into the vital organs, and produces effects greater in proportion to the importance of the affected organs. Humid cold acts more lightly on the surface of the body, affecting the mucous membranes of the nostrils, the fauces, the glands of the neck, the windpipe, the intestines and covering of the lungs, &c. But it is not the mere intensity

of the cold applied to the body, that induces disease ; for ice applied to a cool body sufficient time to freeze the integuments, would neither cause catarrhs, sore throats, nor inflammations of the internal organs ; nor would heat, of a degree sufficient to burn the warm flesh, induce any other evil than combustion. But it is the cold of a degree adequate to suppress perspiration suddenly in a heated body, especially after long drought and heat, on the proper occasion of a laxed texture, that directly and immediately creates compound inflammations of the most violent and deadly modifications, in the summers, autumns, open winters, and wet cold springs, in all tropical regions of the earth, situate within the forty-fourth degree of latitude, in both parallels and in both hemispheres of the globe. Cold, then, applied to the heated body, under the circumstance of its being a great and sudden vicissitude of temperature, accompanied with winds, rains, fogs, or dampness of the ground, and attended by a rapid reduction of animal heat, &c. in such seasons of the year, will always produce compound and simple inflammations ; because the constitution is predisposed to be affected by the cold, and opportuned in that condition to all inflammatory disorders. Persons, too, weakened by long fasting, fatigue, temulence, excessive venery, watching, arduous studies, hard labour, great evacuations, preceding diseases, passions of the mind, bad vic-tuals, long constipation of the bowels, the presence of bilious and putrid excrements, great heat, and long drought, are most liable to be affected by the sudden change of the temperature of the atmosphere from heat to cold. This one vicissitude will never fail to produce all the morbid phenomena of yellow fever in its most violent gradations, in summer and autumn, in all countries where the heat is above 90 degrees, the drought excessive, and the ground dry and sandy, as in the Indies and Americas, Egypt and Archipe-

lago. The cold north wind succeeding to a sultry calmness and suffocating heat, especially accompanied with moisture, are the great exciting causes of the disease under consideration, in all places of the earth where it happens to prevail. The south winds and the north winds being two opposites, extreme heat and extreme cold, suddenly alternating with each other, will produce contrary effects; the former melt the inhabitants with profuse sweatings, the latter stiffen them with chills, and lower the animal temperature, &c. in an excessive and intolerable degree, which disorder the operations and conditions of the animal functions, and induce morbid actions, motions and sensations in the parts most affected in the distemper. The dryness and humidity of these winds will also render the heat or cold communicated by them more or less hurtful to the bodies of men, according to the nature of the existing season. North winds, with dryness, produce comparatively no effect in winter; the south winds, with moisture, have very little effect in the summer season; but dry north winds, blowing after moist warm south winds, produce violent catarrhs, anginas, quinsies, peripneumonies, rheumatisms, inflammations of the brain, intestines, &c. The cold north winds in summer, rapidly following hot south winds, induce the same mortal distempers, combined with all the morbid signs of a redundancy of bile, obstructions of the intestines, affections of the brain, heart, lungs, liver, spleen, bowels, &c. which constitute the real character of compound inflammations or febrile diseases. But the cold nocturnal dews, north winds, or cold damps, showers of rain, coming on suddenly in autumn, after a hot summer and long drought, are most fertile in the generation of these maladies, in the forms of yellow, remittent, intermittent, ardent fevers, cholerae, fluxes and eruptive distempers. The mutations of the temperature of the atmosphere in America are so great and

sudden, that the mercury in the thermometer will rise or fall 15, 20, 30, 40, or 50 degrees in the space of 24 hours; and many persons are seized in their beds with fevers and agues, others awake in violent fluxes and bilious colics. I have often observed, that many persons were subjected to ardent fevers and inflammations on the approach of a sudden change of the weather, in the East Indies and in America. The various and insalubrious weather observed in the United States, exhibits the moisture of the British Isles in the spring, the burning heat and malignant atmosphere of the Indies in summer, the rapid variations of temperature of no other climate of the earth in autumn, and the intense cold of Russia in the winter. Frost sometimes appears in every month of summer, and the heat is often disagreeable in winter, and we have often observed a total commutation of the seasons to happen and to produce the most deadly of all diseases, as if all the distempers of the world were combined in them, from the highest degree of bilious malignant fever and plague of Asia and Africa, and the greatest inflammations of the polar regions to the lowest degree of morbid excitement in low nervous fevers.

Dr. B. Rush, a great advocate for the domestic origin of yellow fever, considered exhalations from marshes, creeks, mill-ponds, from putrid materials on the ground, in holds of ships, or on the streets, as cabbages, potatoes, coffee, meal, onions, cotton, &c. noxious air of bilge water, docks, sewers, gutters, sinks, duck ponds, hog styes, dead carcasses, hides, privies, slaughter-houses, &c. the causes of the various forms of malignant, bilious, yellow, inflammatory, remittent and intermittent, nervous, dysenteric and autumnal fevers. He thinks that the variety of the forms and grades of the summer and autumnal disease in different seasons, and their occasional changes into each other in the same seasons, depends

on the variety of the sensible and insensible qualities of the atmosphere, of the course of the winds, and of the elements of different years. But this is an error of the first magnitude, a mere supposition and a false notion! an assertion founded on no certain experience, observations, facts, nor the testimonies of accurate observers. If this was true, all those who reside within the sphere of the action of such noxious exhalations, would be seized with the distemper, and all those who live distant from the influence of putrid vapours could not be affected. My experience and observation teach me the absurdity of this notion, and demonstrate to every accurate observer, that the causes of yellow fever exist in the most salubrious places, cities, villages, mountains, &c. and produce the disease in the purest atmosphere, independent of the action and influence of any noxious vapours. If we can prove, as we shall do in a subsequent page, that the nature of yellow fever and all other acute fevers is inflammation, the conclusion of the same argument would defeat the belief of any such cause operating to produce the disease. Nothing in nature, except cold applied in the form of a great vicissitude, can possibly induce inflammation of the vital organs. Sanctorius has attested the truth of this observation, when he attributes the causes of the autumnal fevers to a stoppage of perspiration, and Sir John Pringle mentions wet clothes, damp ground, cold winds and dews, &c. obstructing sweat, as the exciting causes of these fevers; and considers heat and drought, fatigue and hunger, as the great causes which predispose the bodies of men to be easily affected by cold. Hence we may see, that almost all the non-contagionists, as well as contagionists, have erred egregiously in their opinions respecting the real causes of yellow fever, some of them attributing the causes to heat and putrid vapours, others to fo-

reign contagion or noxious effluvia, which comprehend a most fatal error, and bespeak a total ignorance of its causes, and nature, and *principles of cure.*

To conclude this part of our subject we shall only add, that the relative nature of the situations and habitations of the subjects of the distemper, including all the different regions of the earth, the different local residences of men in those countries, and the qualities of the ground of their respective soils, increase the virulence of the efficient causes. In the hot, dry, sandy soil of Africa, India, America, Arabia, in all confined places, on the banks of rivers, looking towards the southern or northern sun in either parallels of latitude, bilious and ardent modifications of compound inflammation or fever greatly abound during the hot and rainy seasons of the year, rage most terribly on the approach of the cold dry weather and nocturnal damps, and sweep thousands from the face of nature. The plagues in London from 1661 to 1666, arose in the month of July, from the sultry heat of the atmosphere, cold nocturnal dews or damp fogs, frequent cold showers, cold winds alternating with warmth and dryness of the air, in short, every extreme vicissitude seemed to exist in that dismal period of disease and death, that produced agues, fluxes, bilious disorders and ardent fevers, in the months preceding the great general pestilence, which appeared to swallow up all previous diseases in one common destruction. Indeed, in the month of August all other diseases were absorbed in that general pestilence, all distempers commencing in their usual forms were uniformly resolved into that deadly plague, and in the month of September, says the great historian, death rode triumphant among the devoted inhabitants of London: having borrowed the fatal scythe of time, he mowed down the people like grass, and immersed the poor remains of death in horror and despair.

See History of Pestilences. The streets of London were narrow and confined in those days, and the sudden changes of weather produced more deadly effects than it could do in the present day. Savannah La Mar, in Jamaica ; Havanah, in Cuba ; Savannah, New-Orleans, Mobile, Natchez in America ; Bencoolen, in India ; Gambroon, in Persia ; Vera Cruz, in Mexico ; Whydah, in Africa ; Port Maho ; English Harbour, in Antigua ; Senegal, in Guinea ; Thasus, in the Ægean Sea ; the banks of the Phasis, Nile, Ganges, Tyber and Avernus ; Siam, in the East Indies ; Batavia, in Java ; the low lands of Holland and the everlasting swamps of America, are situations which favour the generation of the most violent diseases in nature, by rendering the surrounding causes more powerful and injurious. Such places are continually infested with pestilence of the most deadly nature, from the circumstance of their being confined to the burning heat of the sun and secluded from the cooling breezes, where the damp dews of the night and rains, seem to chill their inhabitants, to the universal obstruction of perspiration and production of febrile diseases. All the confined southerly streets and houses of cities exposed to the burning sun by day, covered with cold damps by night, situate on low sandy ground, are the common nurseries of yellow pestilences and fluxes, in the seasons of summer and autumn. On the same principle, ships navigating in hot climates are confined and filled with hot putrid vapours, that render seamen most obnoxious to fevers on the approach of sudden cold, by predisposing them to its action. Noxious vapours of ships, jails, houses, streets, cities, villages, swamps or banks of rivers, will no doubt produce bad effects on the human constitution ; especially the hot and offensive fumes issuing from the holds of ships in hot climates, the feter of bilge water, the putrid animal and vegetable substances on the low marshy ground

or on low sandy soil, or in cities and dirty villages, accompanied with moisture or drought, heat and humidity, will debilitate the constitutions of men, subjected to it in a concentrated form, and render them liable to be affected by cold rains, winds, night dews, or immersion in water. I have attended ten soldiers daily, in fever in a ship sailing to the East Indies, when I had the charge of 100 sailors and 300 soldiers on board of her, and have always observed, with the greatest attention, the real predisposing and exciting causes of all diseases incident to men in that situation ; but I can assure the world, that bad air in the ship was never discovered to be the exciting cause of any disease there, and that the cold wind upon deck always affected them, coming immediately out of the hot, close, confined and noxious air of the lower deck.

In the most unhealthy countries and regions of the earth, situations are to be found as asylums of health to the sickly inhabitants in the midst of raging pestilences. The Highlands of Scotland, the salubrious hills of Wales, Auvergne, Switzerland, &c. furnish us more extraordinary examples of longevity and hale robustness of constitution, than the plains of Holland, Flanders, or Poland. In the sultry deserts of Arabia, travellers behold the snow-covered summits of the Persian and Turcomanian mountains, and their salubrious sides lined with refreshing verdure, where the healthful breezes fan the inhabitants. On the rising dry ground in the vicinity of Bombay ; at Mount St. Thomas, near Madrass ; on the site of Calcutta, in Bengal ; in Salvadore, on the river Congo ; where their inhabitants enjoy the free open breezes to temperate the burning heat by day and dissipate the cold dews of the night, people enjoy health, strength and long life. But the inhabitants of Constantinople, banks of the Nile, Mississippi, Ganges, Tyber, swamps of America, being exposed to suf-

focusing heats of the day and the cold chilling dews of the night, rendered more powerful and injurious by cold wind and rains, are everlastingly molested with pestilences of the most deadly nature. I have had many opportunities, in the different climates of Europe, Asia and America, in most local situations and regions, of attesting the truth of these facts, by experience and observation. This leads us to speak of another cause, which is an occasional one of this dreadful malady, namely, fatigue or hard labour.

Hard labour, in the heat of summer and autumn of a hot climate, is another great artificial cause of bilious and malignant fevers or compound inflammations; it operates like double heat and excess of temperature, increases the circulation, induces a temporary fever, produces enormous excretions of the perspirable humours, augments the secretion of bile, exhausts the strength of the universal constitution, enervates and disturbs the particular powers of digestion and assimilation, diminishes the quantity of urine, and emaciates the body, rendering it liable to the pernicious effects of heat and cold, dryness and humidity, under the particular forms and circumstances of excessive vicissitudes. We have often attended persons who laboured hard under the solar rays, drank much liquor, eat hard and solid meat, and who, in consequence, had dropt senseless and speechless in the streets or at work, labouring under the dismal effects of heat, fatigue, and ardent spirits, in the various shades of diseased functions, as insolation or apoplexy, convulsions, asphyxy, and repeated faintings, and madness, attended with all the symptoms of snorting, abolition of sense and motion, violent agitations and contortions of the body, cessation of the motion of the heart and arteries and of the action of the lungs, paleness of the countenance, weakness of the pulse, furious delirium, spasms of the stomach and bowels, oppression about the breast, vomiting, &c.

which have all been attributed to the *drinking of cold water* from the pumps of the city. All classes of mechanics and labourers in America are exposed to the burning heat of the summer months, and are often obliged to work in the sun, to which the British whites are not subjected in any other tropical climates, within their dominions and provinces of the East and West Indies; for in the West Indies the European inhabitants only superintend the work of their labourers—and in the East Indies, all mechanics and artisans from Britain only direct the natives labouring at their respective businesses and occupations; superintend plantations and manufactories; never labour with their own hands, nor expose themselves to the direct rays of the sun; live temperate and moderate in eating, drinking, pleasuring, exercising, &c.; use light, simple, vegetable and farinaceous food; ride in their open-sided chaises, gigs, or palanquins; never walk in the sun, nor sleep in damp low rooms; reside in lofty, well-ventilated houses, and dwell in cities situate on dry and wholesome soil, open to the refreshing anniversary breezes; and consequently the adventitious population of the oriental provinces are not so liable to the invasion of malignant disorders as the Anglo-American inhabitants of the United States, who are subjected to the most arduous labours and hardships. Affluence secures the ease, temperance and moderation ensures the health and happiness, prudence and judgment direct the steps, of most of those prosperous adventurers in the exuberant regions of Asia, while the southern planters of America waste their time in “drinking, idling, gambling, balling, revelling, debauchery, and dissipation;” hunting, horse-racing, sporting, cock-fighting, swearing, &c. which has led an eminent author to reflect on their manners and customs in the justest expressions of disapprobation;—“Dissolute pleasures and luxurious indulgences of every description, form the grand

features of the national character of the Carolinians, Georgians, Louisianians, Virginians, Marylanders, &c." Having slaves to perform all their manual labour, their masters saunter away their lives in indolence, temulence, and ignorance. The Scottish, and the German, and the Anglican inhabitants of the Eastern States, inured to hard labour, earn their bread with the sweat of their brows, gaining a bare subsistence with great industry, are characterized by frugality, temperance, plainness, keenness, enterprise, parsimony, pride or humility, in the extreme ; and the settlers in the Western territories of Indiana, Ohio, Illinois, Missouri, Kentucky, and Louisiana, have been branded with the stigma of inhuman cruelty, exercised in cutting off the poor but noble-spirited natural lords and proprietors of the soil. In the Middle States, all varieties of character exist, from the mingling of all the nations of Europe ; and the people often exhibit distressing examples of sottish drunkenness and excessive avarice. And it is very easy to comprehend the multiplicity and variety of diseases raging in each of these provinces ; the one part consumed with indolence and debauchery, the other ground with hard labour and exposures ; the third part killed with avarice and temulence, under the inclemencies of the seasons. The poor mechanics, principally strangers and new-comers, have no steady employer, as in the provinces of British India ; they must shift for themselves by proposing their services to unfeeling and unprincipled persons, who care nothing for their prosperity and happiness, and will not give them the usual wages provided they can get vile underworkers to serve their purposes ; none care to hire them, none respect them for their superior ingenuity ; none patronize them ; none will employ them, excepting to serve their own ends ; and few ever intend to pay them, if they can, by failing or fraudulence, elude the efforts of justice. Should they happen to obtain work from their

employers, they cannot depend upon work many days from these masters ; they are soon justled out of their situations by low and light workmen, who undertake the work for a third less money, and the good and expert mechanics and artisans are compelled to wander to some distant places of the country in quest of work, travelling from city to city in poverty and grief ; going from village to village in distress, unpitied by the indifferent inhabitants ; friendless and moneyless, dispirited and sunk, exhausted with heat, fatigue and anxiety ; exposed to all the vicissitudes of weather, and without receiving the hospitality of strangers, are seized with violent diseases, and die in misery and despair. If they should obtain work in Savannah, Charleston, Mobile, New-Orleans, Carolina, Georgia, Virginia, &c. the fluxes and malignant fevers and inflammations annually prevalent in the warm seasons of the year, will cut them off root and branch. Alas ! how many beautiful families from England, Scotland and Ireland, have perished in those unhealthy and pestilential situations ! We have known many of them cut off on their arrival into this inclement region : we have witnessed many distressing scenes of such calamitous fates ; and have deplored the cases of disappointed emigrants, who were thus hurried out of life to mingle with strangers in the mansions of the dead ! Alas ! no physicians would attend those poor strangers ! no nurses would administer cold water to those indigent sick ! none of the neighbours bestowed on them a benevolent look ! all avoided the presence of the dying strangers, and they were abandoned to inevitable destruction, when none of their own families were able to serve them ! Whole families have sickened together, sunk together, and have been buried together in one general grave.

We have mentioned these calamitous circumstances and destructive misfortunes of deluded emigrants, to show the

dismal effects of hard labour, fatigue, distress and indigence, in a country like this, where all the natural powers of the elements, the injurious qualities of the soil, the deleterious vicissitudes of the weather and seasons, and the grievous immanity and rapacity of the natives, unite to destroy the lives of those poor strangers, as well as to affect the natives themselves in similar conditions of poverty and misfortune.

Temulence is another mighty artificial cause of the most dangerous and deadly fevers and siderations of the brain. This custom and practice of drinking in the United States of America, has always become a snare to the loose-headed and free-hearted emigrants from Ireland, and other unguarded strangers from other parts of the British Isles. Those men, harbouring the visions of paradisiacal liberty, and being elated with the joy of emancipation from the imagined iron rod of Britain, and naturally loving the smell of the bottle, have often launched into the ocean of perpetual intoxication, on their arrival in America, and have frequently perished in a few days by the pestilences of the country. The unbounded hospitality of the West-India Islanders, their generous conviviality, and habits of dissipation, prove fertile sources of destruction to themselves, and become insidious snares to all new-comers and unwary strangers. For, on their arrival, the Islanders engage them by invitations, in a daily round of visiting, feasting, drinking, and committing excesses of every description, which, together with nocturnal exposures to cold damp dews, are frequently productive of the mortal pestilence of the island. An indulgence in the luxuries and delicacies of their profuse tables, and an intemperate use of spirituous liquors, soon infirm their constitutions, and render them obnoxious to every endemic disease. The plethoric habits of Europeans, the natural vigour and rigidity of the muscular fibres, the high temperature of their bodies, and the thickness of their

blood, render them more liable to be affected by exposures to the sun and nocturnal damps, than natives of the country, whose thinness of blood, laxity of fibres, openness of the pores, lowness of temperature, and tenuity of habit, render them unsusceptible of being affected by the most intense heat, and capable of undergoing the common effects of sudden transitions with impunity. Habitual intoxication, which neither kills nor induces apoplexy, always produces enervity and infirmity of the animal constitutions, inflames the eyes, excites rosy pimples of the face, induces St. Anthony's fire, jaundice, obstructions and inflammations of the liver, inflammatory diatheses of the brain, stomach and intestines, indigestions, dropsies, leanness and consumptions, palsies, and melancholies, madness and fatuity, indurations and gout, impotence of the sexual organs, tremours of the hands and extreme debility, fatal congestions and effusions, ardent fevers and bilious disorders. In constitutions debilitated and undermined by continual inebriation, remedies seldom produce any beneficial effects, because the very membranes and substance of the brain, the coats of the stomach and intestines are weakened and inflamed, the whole blood is loaded and damaged by liquor, the universal constitution is bloated and untuned with spirits, and all its functions are disordered in a degree that premonstrates the immediate approach of gangrene and sideration; all the cerebral, the muscular, the villous, the peritoneal, and the cellular contextures, have suffered exceedingly, and dissolution is generally the fatal event and consequence of habitual temulence. Strangers from Europe obtaining vile liquors at a low rate, indulge most profusely in copious potations of the poisonous fluid, whereby their robust constitutions are broken, and in the course of a few days, weeks, or months, they themselves are launched into eternity under the influence and pressure of some dreadful

malady. They may continue long in the winter season, under the influence of the counteracting powers of cold, or may die of apoplexy in some hot sultry day of summer, so sooner or later habitual drunkards commonly perish in consequence of intemperance. And let it be always remembered, that the exhausted and enervated bodies of inebriates are constantly opportuned to the injurious influences of other efficient causes of distempers; and, although months of continual ebriety do not induce apparent disease, yet the subjects of it being infested by some other virulent disorders, quickly disappear from off the face of the earth.

Improper kinds of *food* and *fruits* are other powerful causes, that unite their influence in the production of malignant yellow fevers or compound inflammations. The mode of their operation is certainly as obvious in all cases of vomiting and purging, happening in consequence of eating cold watermelons, poor vegetables, and fermentable fruits, as bilious looseness induced by crude aliment and fermentable fruits. Unripe and improper fruits load the stomach, disturb the intestines, undergo acid and putrid fermentation, vitiate the blood, excite commotions of the alimentary canal, whence loathing of food, gripings of the bowels, spasms of the intestinal tube, flatulence, putrid eructations, fœtor of the breath, nausea, vomiting, indigestion, hysterical and hypochondriacal affections, great excitement and febrile heat, arise among persons of all ages, but especially prevail among infants and children under twelve years of age. Cherries, plums, raisins, cucumbers, apples, wild grapes, pears, quinces, and other unripe, acescent, fermentable and indigestible kinds of fruits commonly ferment or putrefy by the heat of the body, and greatly disorder all the functions of digestion, assimilation, and motion of the alimentary canal. Such fermented and putrefied contents of the stomach and intestines afford gross and vitious humours, and defile the

blood, whereby eruptions on the skin, biles, carbuncles, glandular obstructions, &c. are produced in the bodies of men.

Fruit pies, rich dishes, fat and gross puddings, hard roasted or boiled meat, tough and gristly, dry and indissoluble flesh of cows, bulls, rams, ewes, he-goats, lean and ill-conditioned animals, gross and cloying sweetmeats, pickles, preserves, confections prepared with the dregs of sugar, are all productive of the most pernicious effects in the human body. Potpies made of hog's flesh and dough, buckwheat cakes soaked in oiled butter or melted lard, fish fried in hog's fat, cakes baked and beef-steaks fried in the same, &c. would load and clog the strongest stomachs. "Not a single dish of meat," says a traveller, "not one meal of victuals is cooked to perfection among us." Food prepared and cooked in the simple manner observed among Britons, and pointed out to them by the suggestions of nature and dictates of human reason, is the most wholesome. In imitating the variety and profusion of the Gauls, they forget the salubrious simplicity and substantial richness of the Britons. Sweets and sours, pickles and preserves, fish and beef, pies and radishes, crowd the tables at breakfast and supper; and roasted pigs, potpies, lobsters, clams, dry lumps of meat, sauces and sausages, melons, beets, puddings, dumplings, and oceans of unwholesome fruits, load them at dinner, and on all occasions; and incessant drams of rum or whiskey, gin or brandy, are deemed necessary to qualify the nauseating mixture in the stomach, and to prepare the appetite for the succeeding meal. In all those dirty and obscene lanes, alleys, courts, houses, rooms, and hovels, where drunken and vagabond persons lurk continually, debauchery and vice universally reign; these vile creatures of abandoned lives and dissolute habits dwell in filth and corruption, live in wretchedness, wallow in intemperance, sunk in

pollution, and addicted to all immoralities, feed on garbage, sleep in damp rooms, cellars, and floors, without beds and clothes, males and females mingled promiscuously in one place, breathe their own noxious effluvia, till sickness and sudden death overtake them. The stench arising from such hovels is perfectly intolerable to unhabituated nerves, and will undoubtedly injure the constitutions of their miserable inhabitants. Such places, indeed, are the common hatching-places of all manner of diseases, especially fevers, inflammations, fluxes, swellings of the glands, congestions and obstructions, ulcers and sexual diseases. Even persons of every description, after a hearty repast of gross and crude aliments, especially those of delicate habits and weak constitutions of the stomach and intestines, experience great uneasiness, oppression, languor, drowsiness, sickness at stomach or vomiting, from the rapid acescent or putrescent fermentation of such food, to the great detriment of health and enjoyments, in the warm months of summer and autumn. The nutriment of tough and hard meat cannot be good nor abundant; the indigestible and indissoluble mass will lie in the stomach and intestines, distend, weaken, or irritate them by its presence and acrimony, oppress the animal powers, and induce disorders of the systems of digestion, circulation, and assimilation, whereby the body is rendered liable to the effects of the exciting causes of compound inflammations. Many lamentable cases of sickness and death, produced among men by improper kinds and excesses of food, might be mentioned in this place; but as we shall illustrate this cause more fully, when we come to treat of the diseases of children, we refer our readers to the chapter on the causes of fluxes, in the summers and autumns of America. None of the human species can use so much animal food in the summer as they can do in the winter; neither can any use the same quantity of meat in the summer

of America, that they can use in Great Britain in the same season, without injury and disease. We could not live on the same kind of food in India, that we use in America, without suffering exceedingly by its effects. For fluxes, bilious colics, worms, convulsions, disorders of the stomach and bowels, and fevers of intestinal irritation, would be the consequences of such qualities and quantities of food. Meat should never enter the composition of children's food, until they arrive at the age of four or six years; very little should be allowed in summer to children of twelve years, when a suitable proportion of animal with vegetable food of a good quality may be given once a day. No man should use much animal food in a hot climate; he ought to live on the produce of the soil of the country where he resides; in East India let him live principally on rice and milk; in Britain, on wheat and flesh; in Gaul, on meat, bread and herbs; in America, on corn and rice, according to the nature and produce of the ground. Let reason and nature be the guides of all those who wish or care to enjoy health and happiness in the body. Excesses in the quantity are as pernicious as the badness and hurtfulness of the qualities of the food. The husbandman in Scotland and Ireland, the peasants of England, Germany, France, &c. who labour in the open air, and are confined to the use of simple vegetable diet, living on meal and milk, roots and herbs, flesh of well fed and young animals, all the produce of their own soils or lands, are in little danger of indulging their palates too freely with the rich dainties of the luxurious and sumptuous tables of the opulent inhabitants of London, Rome, Paris, or New-York, &c. where the poor are generally inclined to imitate the rich in eating and drinking, as much as in the fashions of the day. The rustic inhabitants of America, who are subjected to hard labour in the Northern, Western and Eastern States, live on rye, Indian corn, salted pork,

beets and bad potatoes, greens and milk, and in many newly settled places have a poor and spare provision of these articles of sustenance, cannot indulge their tastes in any injurious degree. They rather suffer by poor living, hard work, and a burning atmosphere ; become meagre in their looks, parched in their countenances, contracted in their features, brown in their colour, and in truth seem to be far inferior to the majestic, tall, robust, elegant, and swift Aborigines of the country, in strength and figure. But the inhabitants of large sea-port towns are compelled to live on the articles of food proposed in their markets ; are reared up in variety and delicacy in food and dress ; are predisposed, from habit and custom, caprice and taste, to eat and drink excessively of the refined dainties and delicacies of the table. And a stomach once accustomed to a full meal, always requires a repetition of the repast in all its fulness, and a palate used to sweetmeats hankers after the same : so many of the children of citizens, from habit and influence of climate, presence of worms, and nature of their diet, become gorebellies from the infancy of their days, or a weak, pale and puny race, in all populous and refined cities. Hence the necessity of confining our children, whom we love and wish to enjoy health and happiness in the midst of an intemperate and luxurious world, exclusively to milk and farinaceous vegetables, prepared in the simplest manner we can devise, as pottage, bread boiled in water, bread and milk, eggs, thin soups, milk and water enriched with sugar, tender and good flesh of well-fattened and well-fed oxen, heifers, lambs, castrated sheep, white-fleshed fowls and fishes, &c. all chosen by a purveyor, who has the welfare of the family at heart to direct his choice. Bad water too, as a part of the aliment of men, is an occasional and predisposing cause of many diseases, particularly disorders of the bowels, in the city of New-York. In many parts of the city the water is

brackish, or loaded with saline materials, which disturb and disorder the alimentary tube, more especially the affecting their motion and villous coats.

Some other causes of compound inflammation or yellow malignant fever might be mentioned in this place ; but as these are the principal and most powerful causes, we shall only mention the rest in a brief recapitulation of the predisposing and exciting causes, as they appear in their effects. The causes, which predispose persons to yellow fever, are heat, drought, calm sultry weather, depressing passions of the mind, intemperance, noxious exhalations, immoderate exercise, unwholesome food and drink, arduous studies, sedentary life, famine, excess of venery, long watching, heat of furnaces, habitual constipation of the bowels, redundancy of bile, gluttony, bad clothing, debility, emaciation, robustness and plenitude of blood, the want of pure air, labour in child-bed, suppression of urine, courses of women, milk, or excessive evacuations, injuries of the body and previous diseases, &c. which render every constitution more or less opportune to the pestilence under consideration, in summer and autumn. The causes, which immediately excite yellow fever in all its combinations, are, insolation, the direct application of cold to the predisposed bodies of men, in the various forms of dry and moist cold, as night dews, rains, damp houses or local situations, rendered more powerful by the winds and great and sudden changes of the weather, density and rarity of the surrounding medium or atmosphere, &c. which never fail to produce compound inflammation of every degree of violence and modification.

To convince our impartial readers of the truth and certainty of all those things expressed in the foregoing illustration of the causes of yellow fever, we might adduce the multiplied facts, which have led me to view them in this light ; and which would incontrovertibly prove their accu-

racy and justness in every given case of the disease. We might also produce all those cases of the disease which would evidence and attest the reality and operations of these causes in generating the distemper in all its combinations, as it has occurred in the different regions of Asia, Africa, Europe, and America, under our immediate observation; but time and patience would fail us to relate all those numerous facts now before me on record and in notes; and I shall only mention the causes of a few of those cases of yellow fever, or compound inflammation, which have come under my own care in this city, where the living monuments of my plan of cure can attest the truths and facts herein stated, as well as witness to the success of it, under the influence and guidance of the doctrines and principles which I hold, in due deference to all good men, respecting the nature and causes of yellow, and all other fevers, whose basis I have judged to be inflammation of a complex nature.

Whoever has read Bontius' work on the diseases of the East Indies, Sir John Pringle's work on the diseases of the army, Lind's observations on the diseases of hot climates, Raymond's treatise on the intermittent fever of Mettleburgh, Gregory's thesis on the changes of the weather, Zimmerman's observations on the causes of diseases in general, or Cleghorn's book on the diseases of Minorca, Cullen's observations on the effects of cold on the living body; whoever has travelled in those regions where yellow fever prevails, and has allowed himself to reflect on the causes existing in nature to produce diseases, will be convinced of the natural causes of this disease existent in the material world, and operating in the very ways that I have described in the preceding pages, to generate all modifications of the distemper.

When I arrived from the East Indies into this extensive continent, my attention was immediately called to consider

the infinite variety of complex distempers prevalent in the various regions and climates of it. I soon perceived the diseases of Asia and Europe abounding in all their awful combinations during the spring, summer, autumn and winter. The summers, I observed, were distinguished by insulations, apoplexies, palsies, convulsions, agues, bilious vomiting and purging, colics, obstructions of the liver, indigestions, headachs, confusions of the intellect, &c; the autumns, open winters, and springs, attended with all kinds of complex inflammations commonly called fevers, peripneumonies, pleurisies, quinsies, catarrhs, putrid sore throats, coughs and consumptions, small-pox, measles, St. Anthony's fire, rheumatisms, or defluxions of the joints, obstructions of the intestines, spasms, &c. I noticed the number of deaths §supposed to be produced by *drinking cold water*; observed the rapidity and violence of malignant fevers; and began to investigate, without prejudice or prepossession, the causes and cure of every one of those hitherto incurable diseases. In this investigation I was greatly surprised at the egregious and absurd notions entertained by physicians, concerning the real nature, causes and cure of yellow fever and insolation, and began to oppose the impenetrable wall of truth to the torrent of current opinions, which have no other foundation than mere suppositions, admitted for established truths by their successors, and held as hereditary possessions by posterity; and for which truths, advanced in opposition to the grossest and most fatal errors, some envious and malicious enemies have machinated a wicked persecution, and have conspired in black confederacy, to ruin my name and character! Lord, forgive them their malignant thoughts, words and deeds, which they have conceived, brought forth and done against me, for they know not what they do! They attempt to repugn all ideas of the discovery of the nature of febrile diseases; they labour hard in secret

calumnies to blast my reputation, and to destroy my character ; but I shall speak the truth in defiance of their calumny, and shall act faithfully to my patients, in the midst of a deceiving world, where injurious connivances seem to hide multitudes of fatal blunders.

The manner in which I discovered the real origin and causes of this and all other febrile diseases, was in exercising my own unfettered and unprepossessed intellects in scrutiny, observation and reflection, on the causes of these maladies, and the mechanism of the animal economy, in conformity to the principles that I held respecting this class of diseases. I discovered its essential nature by dissections ; I proposed to myself a suitable method of curing it from a knowledge of its nature and seat ; then proved the success of that method by actual practice ; attested the soundness of my principles by infallible experience and confirmed them by accurate observations, which at once opened to my view the certain nature, origin, causes and cure of every species of compound inflammation. Having thus established the doctrines I hold by practice and experience, on the basis of sound reasoning, I have obtained that degree of certainty of success, which induces me to rely on the efficacy and virtues of the remedies in curing ninety out of the hundred subjects of the distemper ; and I hope our candid physicians will henceforth have no more occasion to say, “the nature of the disease is unknown, its causes inexplicable, and its cure undiscovered to man ;” neither shall they have any further occasion to complain of the incurability of the disease, as it has “baffled and defeated the wisest and most skilful sages of medicine,” and defied all the efforts of the healing art. In the years 5821, 2, 3, 4, 5, of my residence in America, I have attended many persons, labouring under this modification of compound inflammation, as well as in Asia ; have had sufficient opportunities of pro-

ving and confirming the utility of the remedies which dissections and the discovery of the real nature of the malady had suggested to me ; and shall here subjoin a few of those cases, that have come under my care in this city, to attest the facts and testimonies, that will ever sanction the conclusions I have drawn, relative to the nature and the method of curing yellow fever.

J. H. a strong robust man, a native of England, inured to hard work, accustomed to a moderate use of ardent spirits, subject to no kind of sickness, was exposed to cold in the form of a heavy rain and wet clothes, after profuse sweat during the sultry heat of autumn, and was seized with violent fever, which consisted of a burning heat of the skin, great thirst, vehement pains in the head, back, stomach, and limbs, dryness of the surface of the body, yellowness of the eyes and face, a total obstruction of the intestines, incessant vomiting of black flaky mucus or phlegm, delirium, painful anguish about the stomach and heart, restlessness, watching, strong and full pulse, which clearly demonstrated to me the presence of inflammation of the stomach and liver, aggravated with an obstruction of the bowels. On discovering the real nature and seat of the local affection, I had no hesitation in instituting the infallible method of curing it. I judged it absolutely necessary to direct all my remedies to the reduction of the local inflammation ; I drew two quarts of blood from his arm on the first day of the disease, at two separate bleedings, and the pulse by this evacuation became a little softer only, the other symptoms continued in all their violence. I gave him ten grains of calomel repeatedly, but his stomach rejected every thing by vomiting, and his bowels remained obstinately costive : I administered about twenty strong clysters in the course of the day without observing any effect ; the intestines continued in a state of obstruction.—I put him

thrice in a warm bath on the same day, and placed a blister on his stomach, prescribed ten grains of calomel, formed into a pill, to be given immediately after a turn of vomiting, and left him to spend a restless night. Next morning I visited him at break of day, and found him labouring under the same symptoms, undiminished in any degree. As he would not allow me to repeat the bleedings I subjected him to repeated warm baths and doses of calomel, which had as yet no perceptible effect on his constitution or his bowels, and exhibited strong clysters of jalap and common salt; but no abatement of the symptoms took place on the second day of the disease, and I was compelled to leave him to consume a sleepless night. The third day I enjoyed the unspeakable pleasure of seeing the purgative effects of the calomel, and sudorific effects of the warm bath produced in abundance, to the relief of my distressed patient. In copious evacuations of the bowels he discharged a pint of pure oily gall or bile, of a dark green colour, very acrid, and unmixed with any natural ordure at the first stool; but the other rapid stools were mixed with black flaky phlegm, the same he vomited, and the febrile evils soon subsided.

F. C. a tall young man, a native of England, habitually costive, a full liver, being oppressed with the close sultry heat of the warmest night in autumn in a confined apartment, went out of doors to a back shop, lay down in the open portico, and slept in his shirt, exposed to a cold transition of temperature, which happened in the morning watch, and was attacked next day with violent burning fever, accompanied with all the concomitants of yellow skin, black vomit, and obstruction of the intestines. I took sixty ounces of blood from his arm in three bleedings, administered clysters and employed warm baths, as in the case of J. H. but the vomiting and constipation of the bowels still continued, even after the reduction of the inflammation, until all the

bilious and putrid excrements were evacuated by means of a drastic purge.

E. C. his father, a thin, spare man, being uncovered in bed and exposed to the cold wind, blowing upon him from an open window, during the same sudden and great change of temperature of the atmosphere, in the morning became chilled and stiff in all his limbs and other muscles of voluntary motion, and was invaded with violent headach and fever, attended with redness of the eyes, intolerance of light and sound, giddiness, vomiting, great anxiety, suppression and redness of the urine, dryness of the tongue and skin, &c. which clearly manifested to me the approach of inflammation of the brain. The detraction of thirty-two ounces of blood, and the operation of powerful purges, subdued this disease on the first day of its invasion.

T. C. his brother, a young man of a good constitution, temperate and sober, was exposed to cold damp night air, immediately after profuse sweating at work during the day, and next day was subjected to the most violent fever, attended with pains in the head, back, limbs, stomach, vomiting, &c. which evidently showed the existence of an inflammatory diathesis or disposition of the internal viscera or organs. I employed repeated bleedings, warm baths and purging, in a degree sufficient to reduce the whole of the inflammatory affections of the inward parts, and he recovered in five days.

W. M. a stout fleshy man, inured to labour in a confined sedentary occupation, a native of Scotland, having proceeded on an excursion to the country in the autumn of 1785, A. M. was subjected to an unusual degree of heat and fatigue, was caught in a heavy rain, and exposed to the sudden cold of the transition of temperature, returned to the city in his wet clothes, and was seized in the following night with violent ardent fever, accompanied with excruciating pains in the

head, stomach and back about the region of the kidneys, yellowness of the eyes, urgent vomiting, burning heat of the skin, whiteness of tongue, high-coloured scanty urine. I bled him largely, put him in a warm bath frequently, and gave him powerful purges of calomel. The violence of the disease was removed by these means, but some remains of the inflammatory condition of the reins and caul continued for some time, and produced a common remittent, then a pure intermittent fever, which required repeated blistering, medicines to promote perspiration and urine, and to strengthen the debilitated constitution.

A. S. a strong healthy man, [a native of Ireland, accustomed to hard labour in hot and cold weather, addicted to ardent spirits, was exposed in autumn of the same year, and suddenly fell into a violent fever, consisting of a severe pain of the head, low delirium, dimness of sight, redness of the face, an universal yellowness of the body, whiteness of the tongue, suppression and redness of the urine, &c. which characterized an inflammatory affection of the brain. The pulse was low, and I bled very sparingly and purged copiously, to reduce the inflammation of the brain and tumour of the head. M. S. his daughter, a fat fleshy person, was greatly fatigued, much exposed to the cold dampness of a low wet house, slept one night opposite to an open window, and was seized next day with violent fever, attended with a slight cough, pains in the head, back, limbs and chest, flushing of the face, and redness and suffusion of the eyes, which demonstrated the presence of inflammation of the lungs and head. This case of compound inflammation yielded to bleeding and purging.

A. M. a strong robust man, a native of Scotland, habituated to hard labour, lived temperate, worked in a low damp cellar, exposed his sweating body to a current of cold air, nocturnal dews and sudden cold of the atmosphere, became

chilled and fell into the most violent fever, attended with vehement pains in the stomach, a strong quick pulse, head-ach, vomiting of bilious matter, yellowness of the skin, &c. which indicated the nature and seat of the disease to be inflammation of the liver behind the stomach. I opened the veins of the arm, and drew ninety-six ounces of blood from his arm, exhibited powerful purges, ordered the warm bath, prescribed repeated clysters, and he recovered.

R. B. a strong robust man, a native of Ireland, was much exposed to the solar rays, nocturnal dews, and cold rains with north winds; slept in a cold, damp, open house, and was attacked with the most violent ardent fever, attended with the most direful symptoms of inflammation of the head and liver, and with an obstinate obstruction of the intestines, a redness and suffusion of the face and eyes, deep general yellowness of the body, incessant vomiting of bilious matter, &c. This case happened during the great and sudden change of weather, which produced so many cases of yellow fever in the autumn of 5825, A. M. I took about eight pounds of blood at repeated bleedings, and removed the febrile action the second day of the disease; but the obstruction of the bowels and incessant vomiting continued in all their violence and obstinacy, till I lifted him out of bed and dashed cold water over his lower extremities and belly, when copious evacuations of bilious matter of a dark green colour with putrid excrements, ensued, to the complete relief of my patient from every complaint. W. B. his son, a thin, spare youth, accustomed to bathe in the river, slept one night exposed to the cold north wind, blowing in at the garret window, during the same transition from heat to cold, was seized with violent remittent fever, attended with delirium, vehement pain in the region of the heart, an unequal intermittent pulse, repeated fainting and convulsions, which clearly manifested the presence of inflamma-

tion of the heart and brain. This case was relieved by repeated bleedings, but he was dragged from under my care, and died on the way in a fainting or convulsive fit.

C. B. was a healthy young person, a native of Ireland, was much fatigued by work, watching and heat, in her pregnancy, grieved in mind about the state of her family, lived in a low, damp, open house, was habitually costive, was peculiarly circumstanced in child-bed during the great change of the weather in the same season; could take no medicine to purge the bowels after delivery; clysters did no good; could not obtain any nurse, except drunkards, who served her with nothing: her mind became depressed with cares and vexation, and she fell into a violent fever, attended with frequent vomiting of bilious and black flaky matter, pains in the stomach, bowels and head, remissions and exacerbations of vehement fever, yellowness of the skin, &c. which all yielded to bleeding and purging. I prevailed upon her by urgent persuasion to swallow as much calomel as operated, and administered many clysters, and even prepared drink and nourishing panada with my own hands, and visited her five and six times in the day; but alas! I could not stay with her to nurse her, and she sunk into a faint and died. I believe, that, if she had received cordial nourishment after the fever was removed, she would not have died in that attack of compound inflammation of the stomach and intestines.

In this manner I might trace every case of yellow fever, which has occurred in New-York since my arrival and residence in it, both in those persons whom I attended, and in those attended by other physicians; for I watched the rise and progress of the disease, marked the mode of treatment, noted the cause of death in every given case, observed all circumstances of change of weather, hotness and coldness, dryness and humidity, nature of the patients' habitations,

their manner of living, their constitutions, their habits, &c. as far as could be obtained by the public prints and private researches, and could now give a substantial history of every case of the disease, to the full satisfaction of all impartial and candid inquirers and naturalists, and to the internal conviction of prejudiced characters, who will never openly acknowledge the truth of these observations, even at the expense of conscience, candour, honour, integrity, and all that is great and good in mortals. But these few cases, with the subsequent demonstrations of dissections, are deemed sufficient to manifest the real causes and curable nature of this formidable malady; so we shall proceed to unfold and illustrate the real essential nature of the disease in particular, as it arises from these exciting causes.

EXPLICATION OF THE NATURE OF THE PESTILENCE OF AMERICA.

HAVING now finished the explanation of the real causes of compound inflammations or febrile diseases, particularly the yellow fever, the distemper of which we speak; and having therein proved the origin and generation of that complex malady, we shall thence proceed to unfold and illustrate its real essential nature as it proceeds from the fore-mentioned causes, and exists in the human frame as the immediate effects of those causes, which have, in all the natural consequences of their action and operation, affected the organs of the body. Yellow fever, in every case of its existence, consists in an inflammatory affection or disease of one, two, three or more internal organs or parts of the body. In the knowledge of this great doctrine, and in the belief of this important maxim or principle, I proceed to describe the particular affection of each organ severally, as

it appears in every given case of the distemper, that we may first comprehend the constituents and combinations, and be enabled to estimate the relative degree of violence in every modification of the disease, in its symptoms, character, and seats in the vital organs.

The first great and terrible modification of this disease we shall mention, consists of an inflammatory affection of the substances and membranes of the brain and spinal marrow. The brain is the organ most generally affected, primarily or secondarily, in almost all cases of yellow fever, and every other violent febrile disease : this is the great and important viscus or part commonly diseased and disordered by the external action of heat and cold, dryness and humidity of the atmosphere, the direful influences of spirituous liquors, and presence of bilious matter in the intestines and blood. Every degree of vascular excitement and stimulation beyond the natural standard, affects the brain in a degree proportioned to the violence of the excitement. In all febrile diseases or compound inflammations, attended with violent excitement, the brain, with all its intellectual and tributary powers, participates in the affections of other parts, becoming more or less disturbed in its functions and energies, and hence we find the intellects and motions of our patients greatly disordered in all compound inflammations, when the disease is seated in other organs of the body. But we observe the immediate effects of the solar rays on the brains of those who instantaneously fall to the ground in insolation, apoplexy, fainting and swooning ; we see the dismal effects of the sun and ardent spirits in the bodies of those who consume their days in all manner of intemperance ; especially in those, who waste their strength by incessant dram drinking, are exposed to the inclemencies of the seasons, and are subjected to laborious exercise in the hot months of May, June, July, August, September and October, in tropical regions.

From these facts we must conclude, that intense heat, drought, and sudden cold immediately affected the brains as well as the stomachs and bowels of those persons, who were so suddenly destroyed by it. See history of pestilences. Now to prove the existence and violence of this inflammatory affection of the brain entering the composition of yellow fever, we have only to mention some of the principal symptoms of the local disease in the head, where that affection appeared the most prominent feature of the distemper. When we see a patient labouring under vehement deep-seated pain of the head, accompanied with redness and suffusion of the eyes, intolerance of light and noise, delirium or perpetual watchfulness, quick strong pulse, great thirst, &c. which distinguish many cases of yellow fever, we cannot doubt the presence of inflammation of the brain. There may be, however, an inflammatory affection of some other organs or parts existing at the same time, to add to the formidableness and rapidity of the disease. The manner in which intense heat, drought, labour, spirits, cold, gluttony, &c. operate on the brain to produce the disease in question, we have already explained; but it here remains for me to describe the diseased conditions of the brain as the morbid effects of such causes. Further to evince the nature of this affection of the brain, we shall demonstrate its diseased state by dissections of the bodies of those, who have died of the distemper, characterized by symptoms of inflammation in the head. On opening the bodies of the dead in yellow fever, we have found the vessels of the brain greatly turgid and distended with blood, its membranes and substance inflamed and corrupted, its cavities and convolutions filled with water, the whole mass increased in volume and gorged with humours. In some cases purulent matter in abscesses, depositions of lymph, adhesions of the strongest membrane to the skull, gangrene, &c. have been found

in the brain. All those who have examined the heads of persons who died of yellow fever, have demonstrated, by their dissections, the truth of this observation, namely, that inflammation of the brain always exists in every case of that fever, where the prominent feature of the disease was an affection of the head. Dr. J. Leiutaud mentions, that the heads of those who had died of malignant and ardent fever, when opened in dissections, have exhibited abscesses, both in the interior chambers of the brain and about its surface, purulent and sanious stagnations and corruptions in the windings of its substance, and in the different recesses of that viscus. The cavities of the brain were often found distended with watery humours. Inflammations, putrescent condition, gangrene, distention of the veins, purulent and serous colluvies, &c. were invariably observed in the substance, recesses, and coverings of the brain, in those persons who had died of affections of the head, in all cases of ardent, malignant, and pestilential fevers. Sometimes we have observed serous and sanguineous effusions, as are found in apoplexies, epilepsies, and lethargies, yellow and greenish humours fluctuating in the brain and spinal marrow, sanies and purulence, as in cases of palsy and phrensy, presented to our view, which left no doubt in my mind of the previous existence of inflammation, insolation, or inundation of the brain.

All physicians, who have carefully examined the bodies of those who had died of yellow malignant fever, have found the remains and consequences of inflammation in every case and subject of dissection; and how it never entered their minds, that the whole disease consisted of an inflammation of some of the internal organs of the body, as the essential affection, and that all the symptoms of heat, thirst, pain, delirium, &c. were the indications of the original disease, astonishes me beyond measure. The very first

body or subject of malignant fever I dissected, where I found traces, remains and consequences of inflammation in the vital organs, I concluded that bleeding and warm bath, with the purging, blistering, and sweating I employed, would have cured and saved my patient. But, alas! I was never taught, that every case of fever was inflammation, by my teachers; neither was it described as such in the writings of physicians; the very contrary doctrine was always taught in the schools of medicine, and we were led to believe, that the undefinable state of morbidity, commonly called fever, induced the inflammation which they had observed in dissections, and that an undefined and unknown being, called contagion, or noxious vapour, was the cause of the fever. This delusion and error defeated the very testimonies of their own senses, and defied all rational conclusions on the subject of the nature of fever. The appearances on dissections demonstrated to them the presence and existence of inflammation in every case of fever; reason suggested to them the nature of the disease; experience taught them the identity of the symptoms of fevers and simple inflammations; yet they still allowed their understandings and judgments to be deluded and perverted by an egregious and fatal error, which had been current among physicians for upwards of two thousand years, just as the delusions of Moham-medism have prevailed over the senses, reasons, understandings and judgments of men for so many ages. But the erroneous opinions of other men, however great and learned they may have been in their professions, never have biased, never shall influence my mind in favour of their false and absurd notions: what common sense, reason, experience, observation, and the inevitable suggestions of apparent objects and relations of beings teach me, I believe as natural truths and realities. So, by searching, I have discovered the real nature of yellow and every other fever, and I have

conformed my practice in the administration of remedies to the nature of the malady. Sir John Pringle, Drs. Colin Chisholm, Syng Physick, Isaac Cathrall, Parrish, James Lind, Hume, Morgagni, and all other physicians, who have examined the bodies of the subjects of fever, have uniformly mentioned the appearances of inflammation, and its consequences in every given case of the disease ; yet, strange to tell, they were contented to continue in possession of the hereditary errors of their ancestors and predecessors, in defiance of ocular demonstrations ! Even Dr. Benjamin Rush, who boldly attempted to reform the practice of medicine, by inventing a new theory, and adopting old and effectual remedies, and who practised in the midst of yellow fever, never discovered the real nature of that dreadful malady. In his illustrations of the phenomena of fever, he has described six states of the disease, under the second class of morbid symptoms, “ in which there are local affections combined with general fever ;” “ The *Cephalic*, in which are included the phrenitic, lethargic, apoplectic, paralytic, hydrocephalic and maniacal states of fever ;” yet he never supposed the presence of inflammation of the brain and its membranes as the primary, original and essential disease. Yea more, he most irrationally avers, that, “ in vain have physicians sought to discover, by dissections, the cause of fever in those cases, when followed by death, in the parts of the body in which it was supposed, from pain and other symptoms, to be principally seated.” What an ocean of ignorance does this preposterous assertion open to our view ! Yet he says that “ the brain was principally affected with morbid congestion in the disease. It was indicated by the suffusion of blood in the face, by redness of the eyes, by dilatation of the pupils, by the pain in the head, by the hemorrhages from the nose and ears, by the sickness and vomiting, and by an almost universal costive state of the bow-

els. Inflammation certainly takes place in some cases," said the inconsistent reasoner, who thus bewildered himself with new theories and absurd notions of fever.

In many cases of common inflammation of the brain, its substance becomes dark brown and as soft as rotten pears, and breaks down into a pultaceous mass of putrid matter, and terminates in internal dropsy of the head. But an erysipelatous inflammation of the brain is far more insidious and fatal in all cases, coming on with calmness, sleepiness, dimness of sight, dull soreness of the head, or rather an oppression of the brain, slow and small, or quick and weak, sometimes intermittent and irregular pulse, total loss of sense and motion gradually approaching, and either ending in gangrene or blight of the brain and sudden death, or terminating in water of the brain, which subjects the patient to the lingering death of a dropsy of the brain.

We come now to consider the nature of yellow fever, as it consists in compound inflammation of the vital organs contained in the cavity of the chest. In a case of this kind, when we observe violent febrile action or fever accompanied by acute or obtuse pains in some part of the chest, breast, back, or sides, difficulty of breathing, a cough more or less severe, often very slight and unobserved by the physician, a hard strong pulse, flushing of the face, a sense of weight and oppression in the chest, white tongue, red urine, hot dry skin, costiveness of the bowels, vomiting, with or without yellowness of the skin and eyes, we may safely conclude that inflammation of the lungs or their covering exists, combined in autumn with all the evils of a bilious disorder of the stomach and intestines. Whenever we perceive the existence of pain in the left breast about the region of the heart, palpitation of the heart, an unequal and irregular pulse, constant vomiting, cough, difficulty of breathing, fainting, convulsion, accompanied with sighing, extreme anxiety, or

without yellowness of the skin, &c., which manifest the presence of extensive inflammation of the heart and its covering, we cannot doubt or mistake the nature of the direful modification of yellow fever in its most malignant combination. On dissecting the bodies of those persons who have died of the disease attended with these symptoms, we have found, on opening the cavity of the chest, the lungs soft and gangrenous, covered with dark red or black spots, and vesicles or blisters containing yellow humours, corrupted down into a pulpy mass of purulence, highly inflamed, turgid with dark blood, the pleura often reduced to a rotten mass, with serous yellow water in the cavity of the chest. "But the lungs were highly inflamed," says Dr. Chisholm, "and of a livery texture and hue, a circumstance the more extraordinary, as no symptom of a marked pulmonary affection could be perceived during the existence of the disease" or life of the patient. The lungs, says Lieutaud, changed from their natural colour exhibit various livid and gangrenous spots, and being sometimes affected with putridity, are easily broken down by the touch, and collections of serous or purulent fluid in both chambers of the chest. The heart too, is often enlarged and flaccid, inflamed, ulcerated, and its covering full of matter or water in cases of fever.

When we see a violent fever ushered in with vehement and excruciating pains around the margin of the lower ribs, as if the patient was bound with a cord, painful difficulty and interruption of respiration, performed only by the elevation of the ribs in an erect posture, frequent retractions of the corners of the mouth into a disagreeable *Sardonic laugh*, delirium, frequent and urgent vomiting of bilious phlegm, clamminess of the mouth, furred tongue, red urine, dry and hot skin, extreme anguish about the stomach, accompanied with great prostration of strength, constipation of the bowels, or without yellowness of the eyes and skin, and some other

symptoms of ardent fever, we can safely determine that inflammation of the diaphragm or midriff is the most prominent feature of the disease, constituting the character of this modification and combination of compound inflammation. Dissections of dead bodies in cases of fever have shown and manifested the existence and presence of previous inflammation, suppuration, ulceration, and gangrene of its peritoneal coat and muscular substance, commonly accompanied with the same affection and morbid condition of the stomach, intestines, mesentery, caul, and liver.

We come in the third place to speak of the nature of yellow malignant fever as it consists in compound inflammation of the organs or entrails, contained in the cavity of the belly. In cases of this modification of the disease we observe a low typhus fever, attended with an acute or obtuse fixed pain and burning heat in the stomach and bowels, sudden and immense prostration of strength, great anxiety, violent and painful vomiting, frequent hickup, pains in the stomach increased by pressure, presence of food or drink, tenderness and fulness of the pit of the stomach, frequent small and contracted, hard and irregular pulse, faintings, obstinate costiveness of the bowels, attended with some other accidental symptoms of a bilious disorder of the liver in the autumnal season of the year, which clearly manifest the presence of inflammation in the stomach. Indeed dissections demonstrate the existence of inflammation in that tender entrail. On opening the cavity of the belly we have often found the stomach inflamed, gangrenous, sphacelated, suppurated, and ulcerated; the villous coat especially has been seen corroded, mortified, and exfoliated into black specks and flakes. The gullet, stomach and intestines are generally found in the same diseased condition of inflammation, gangrene, erosion, purulence, and exfoliation of the sphacelous speckles of the villous coat. The veins of the

stomach too are often distended and gorged with blood on the external surface, appearing dark through the transparent peritoneum or caul. This is one of the most frequent, rapid and mortal species or forms of yellow fever. It commonly terminates in mortification in the space of three days. Inflammation of the intestines is also a very common constituent of yellow fever or compound disease, whose basis and essence is an inflammatory affection of the internal organs. Its presence too is very obscure and its approach insidious, often escaping the attention and observation of common observers. Its insidious invasion, however, may be known by the following symptoms, which every practitioner of experience, sagacity and penetration, can easily recognize as the common signs of the original and essential internal inflammation, viz.: a typhoid fever, acute fixed pains in the belly, increased by pressure and motion, twisting about the navel, obstinate obstruction of the bowels, tension and swelling of the belly, sickness at the stomach, vomiting of bilious and feculent matter, slow and tremulous, or hard, contracted, small, frequent and weak pulse, great prostration of strength, high-coloured urine, great thirst, dryness of the skin, putrid eructations, urgent desire to go to stool, looseness, pains all through the belly, sometimes difficulty of making water, colic pangs, hickup, starting of the tendons, delirium, pale livid countenance, &c. which symptoms characterize this modification of compound inflammation, and leave no room for doubts in the minds of judicious and experienced men, respecting the seat and nature of the local affection. Dissections have established our opinion of the nature and seat of this combination of yellow fever. On opening the cavity of the abdomen, the intestines, the caul, and the mesentery, appeared inflamed, mortified, wasted, or suppurated and ulcerated in various parts, sometimes all their veins distended with blood, and

the inflammatory affection is often communicated to the liver, spleen, reins and bladder, through the medium of the caul, which envelopes most of the ventral organs, and whose doublings connect the intestines. The intestines are often inflated, or affected with preternatural constrictions in various parts of their convolutions.

Another very frequent modification of yellow fever, consists of an inflammation of the liver. A vehement pain in the right hypochondriac region, within the margin of the lower ribs, or in the pit of the stomach, aggravated by pressure, tension of the part, pain extending to the top of the shoulder, or is felt about the collar bone, difficulty in lying on the opposite side; dry cough and shortness of breath; vomiting, hickup, jaundice, obstinate costiveness or painful looseness, bilious and bloody stools, oppression and fulness of the stomach, red urine, yellowness of the eyes and whole body, and other symptoms of a bilious disorder, indicate the presence of inflammation of the liver, of the acute species and form. If obtuse pain has been long in the side, accompanied with a little fever, indigestion, constipation of the bowels, languor, and the patient at last falls into a violent fever from cold, then the disease is chronic inflammation of the liver, attended with all the other symptoms of yellow fever. The appearances on dissections show the consequences of inflammation in the liver and other parts, of both kinds, as gangrenous spots on its external surface, abscesses in its porous substance, or purulence diffused through its spongy texture, egorgement with blood, enlargements and indurations of the organ; sometimes the liver is flaccid and shrunk to half its usual size, and changed to a white morbid colour. The diaphragm, caul, stomach, intestines, sweetbread, kidneys, lungs, &c. are found disfigured by previous inflammation, suppuration and gangrene in such cases, which clearly display the existence and pre-

sence of compound inflammation in every case of yellow fever.

In some cases inflammation of the spleen constitutes the most prominent feature of yellow fever. It commences with chills, heat and tension, pain and tumour of the left hypochondriac region, increased by pressure, often resembling inflammation of the left lobe of the liver, great thirst, vomiting of dark coloured matter, and terminates in suppuration or induration. An enlargement of the spleen is often the immediate exciter of agues, remittent and hectic fevers, and may continue for many years, before it produces death. Inflammation of the reins often constitutes the disease under consideration. Violent fever, pain in the region of the kidneys, extending along the excretory ducts to the bladder, frequent desire to make water, mucous, or bloody discoloured urine, difficult discharge of it, constipation of the bowels, skin hot and dry, pulse variable, pains of the back are increased by pressure and motion, sickness at the stomach, constant vomiting, numbness of the leg and thigh of the affected side, a retraction of the testicle, manifest the presence of renal inflammation, so urgent in many cases of yellow fever.

Inflammations of the bladder and womb often constitute the essential feature of yellow fever; and I presume often exists as a prominent symptom of the disease in the autumnal season of the year, when inflammatory affections of every internal organ prevail in a most awful manner, to destroy the inhabitants of tropical regions, especially the continent of America, where these febrile diseases predominate in their most complex forms. Inflammation of these organs and the caul, are generally combined, and assume very complicated modifications of the disease, insidious in their approach and deadly in their consequences.

Inflammation of the *Pancreas*, or sweetbread, a conglo-

merate gland, situate under the stomach, close to the backbone, frequently exists in this fever as a constituent of the compound disease. It is known by the pain occupying a place under the pit of the stomach, being increased on pressure, attended with indigestion, constipation of the bowels, vehement fever, and other signs of bilious disorder of the stomach and intestines, &c. The pain sometimes extends throughout the belly, and there is sickness and distention of the stomach, especially after meals, producing a sense of weight in the organ, a looseness of the bowels, pains in the loins or back, a scarcity of urine, &c. Dissections have also shown its diseased appearances. Inflammation of the caul is a very insidious disease in its accession and mortal in its consequences; is most frequently combined with inflammation of the midriff, intestines, kidneys, bladder, womb, stomach, spleen, and liver, in the autumnal fevers of America, and is most generally incident to women in child-bed. No symptom seems to indicate the existence of this obscure modification of the disease; it differs from all other compound inflammations so remarkably, that physicians generally have no apprehensions of its presence, do not surmise that such an affection exists in the body. It often commences with slight pains in some particular part of the belly, increased by erect posture, pressure and bodily motion, tension and tenderness of the bowels, and gradually proceeds to a fatal termination. It frequently too begins with acute pains of the belly, periodical and spreading, marked with remissions, increased by coughing, sneezing, moving, walking, breathing, and the weight of the bed-clothes. When the disease occupies the epigastric portion of the caul, violent vomiting, peculiarly convulsive eructations of wind, continuing without intermission for a long time; hiccough, quick short respiration, appear to exist, for the stomach and midriff seem to participate the morbid

affection. If the inflammation occupies that portion of the caul which covers the bladder, womb and kidneys, these organs will sympathize in the morbid action, or will become affected by the contiguous disease; hence we observe the various symptoms of difficult micturition or evacuation of urine, pain extending along the yard, suppression and retention of urine, and violent fever, as the concomitants of its presence in these situations. The pain in this inflammation, however, is very changeable, moves on through and spreads all over the bowels; from the midriff it descends to the lower belly, traverses the body from right to left, sometimes extends the length and breadth of the whole belly. The pulse at the beginning of such cases of inflammation is nearly natural, gradually becoming quicker, beats from 80 to 96, rises to 120 and 140 strokes in a minute, is small and weak, contracted and hard; the skin is dry and hot, the face is flushed, the eyes become red, the tongue is white, the thirst is great, the appetite is lost, and restlessness, delirium, cold sweats, and total cessation of pain, premonstrate the approach of death. No obstruction nor disorder of the bowels exist in many cases, but in some others the alvine evacuations are slimy, loose, scanty, voided by much straining, and sometimes the intestines are loaded with bilious excrements in autumn, from the season and nature of the climate. Such are the insidious features of this disease, and such is its obscure nature, that many hundreds of physicians have egregiously mistaken its presence for some other diseases of the alimentary canal. The greatest obscurity exists in the first stage of the disease; but, when it has advanced to its second and incurable state, the pains become more severe, fixed and permanent, the belly swells, is inflated with wind, the coats of the intestines become diseased, and all contiguous organs and parts partake of the morbid affection.

Sometimes it runs very high in cases of yellow fever, and terminates fatally in the course of three days. This inflammation, therefore, may assume the symptoms of inflammation of the muscular coat of the intestines, producing obstruction, inflammation of the villous coat producing a flux, inflammation of the midriff, creating shortness of breath and extreme anguish, and inflammations of the muscles of the belly, liver, &c. which are all to be characterized by the particular situations of the morbid appearances and sensations. [See the demonstrations of dissections to evince the nature and terminations of this disease.] We have noted in our observations, that inflammation of the covering or outer coat of the intestines produces no disturbance of the alimentary canal: inflammation of the muscular coat of the intestines induces total obstruction and suspended action; that inflammation of the villous coat creates violent looseness, vomiting and dysentery; that inflammation of the villous coat of the small intestines produces diarrhœa, or excessive flux of a watery kind; that the same affection of the villous coat of the large intestines constitutes dysentery; and that inflammation of the villous coat of the stomach is always attended with great retching and vomiting of all ingestions. When general inflammation of the caul and other internal organs contained in the belly, happens, as actually occurs in many cases of yellow fever, in the summer and autumn, all the efforts of man might not be adequate to preserve the life of the patient; yet the experienced and decisive physician can never be destitute of resources; as soon as one remedy fails he flees to another; when one patient dies in an incurable stage of the disease, he will endeavour to prevent such a deadly state in another patient labouring under a similar disease. So all our efforts should be applied on the first day of all violent cases of compound inflammations, and to use all remedies and means

with success it is absolutely necessary to know the real nature, extent, and tendency of the disease. Violent fever with pain in the belly, is a certain mark of the existence of inflammation in the entrails, and we could not defer bleeding, &c. ; but the aggregate of the symptoms comprehends the various symptoms of extreme prostration of strength, smallness, hardness, contractedness, and frequency, or the slowness and feebleness, rapidity and irregularity of the pulse, vomiting of feculent matter, obstinate obstruction of the intestines, or excessive flux, tension, distention and tenderness of the bowels ; redness, scantiness and suppression and difficulty of urine, dryness of the skin, tongue and throat, livid lips, luror of the countenance, yellowness of the body, fainting, tymphanites, or inflation of the belly, vomiting of gangrenous flakes from the villous coat of the stomach and intestines, stupor, delirium, pains in the regions of the stomach, midriff, liver, spleen, kidneys, bladder, womb, intestines, &c. which always constitute yellow fever in the autumnal season of the year, in its most violent and deadly forms.

When inflammation of the villous coat of the whole alimentary canal takes place in summer and autumn, the most dreadful commotions supervene. A sense of weakness, trembling, giddiness, sickness at stomach, violent retching, vomiting, and purging of a watery, starchy, bilious or greenish matter, cramps of the stomach, limbs, fingers and toes, wrists, forearms, calves of the legs, muscles of the thighs, belly, and midriff ; pains, contraction, oppression of the stomach and breast, sense of internal burning or heat, inordinate thirst, laborious and hurried respiration, deep sighing, small, fluttering, indistinct and frequent pulse, clammy cold sweats, coldness of the body, faintings, dank and disagreeable feeling of the skin, discoloured of a blue and purple hue, sudden and great prostration of strength, extreme anguish and agitation, suf-

fused, fixed, glossy or heavy, dull, languid, and sunk eyes, surrounded with a dark circle, livid and pale cheeks, countenance expressing extreme vacancy and misery, restlessness, headach, delirium, &c. indicate an inflammatory affection of the whole alimentary tube, and, in summer and autumn on the continent of America, constitute the yellow fever under consideration. For in the course of twenty-four hours, this cold stage just specified generally vanishes, and a hot stage of vehement reaction ensues, the animal powers begin to exert themselves, the pulse rises in strength and fulness, becomes hard and sharp, immense evacuations of bilious putrid matter take place, the tongue becomes furred white, the skin is hot and dry, eyes become yellow, and flesh brown or yellow, alternate chills and flushes, stupor, sordes of the teeth supervene, the mouth is black and hard, deep inspirations, moaning, tossing, weak tremulous pulse occur, the alvine evacuations become black and pitchy, fetid and offensive matter is discharged insensibly, which constitute the second stage of an epidemic cholera or yellow fever. The dissections of the bodies of those who have died of this malady demonstrate its nature and causes to be the same as the yellow fever of America. On opening the belly peculiar and uncommon fœtor is emitted from the entrails, the intestines are found deeply reddened and darkly coloured, the stomach distended with transparent, green, dark flaky fluid, the coats of the stomach and intestines marked with deep red streaks, interspersed with spots of inflammation and gangrene, their vessels enlarged and turgid, covered with coagulable lymph and bloody gelatine, full of dark fluid like tar, the liver is enlarged, gorged with blood, or soft and flaccid, light coloured, large grayish spots interspersed through it, and the gall bladder invariably distended with black or dark green bile. The peritoneum or caul is often found inflamed, sphacelated, corrupted, or

all its veins turgid and distended with blood, the mesentery and all the caul and coats of the internal viscera wasted, putrid, reduced to a rotten pulpy mass or gangrenous corruption, full of purulent matter, according to their peculiar textures. Cholera Morbus, in fact, is a disease essentially the same as yellow fever, accompanied with diarrhœa or putrid flux of the belly, and terminates in death attended with the same symptoms of black vomit and yellow skin. [See the Report of the Medical Board of Bengal of the cholera which prevailed epidemically in the provinces of India in 1817.]

Dr. Rush has asserted and satisfactorily proved in his description of the multifarious beginnings of yellow fever, and in his outlines of the phenomena of fever, *Med. Inquiries, &c.* Vol. 3, page 30, the “intestinal state of fever. I have been anticipated in giving this epithet to fever, by Dr. Balfour. It includes the cholera morbus, diarrhœa, dysentery and colic. The bilious remitting fever appears in all the above forms, in the summer and autumnal months. In some cases there was all the pain and distress of a bilious colic, and in others tenesmus and mucous and bloody discharges of a true dysentery. A diarrhœa or purging introduced the disease in a few persons,” especially in those who had a weak constitution of the bowels; and he mentions in some part of his works, that the whole force of the disease is determined towards the bowels, which produces vomiting, spasms, and purging, &c. in an alarming degree. Dr. Sydenham mentions the introverted fever, which consisted of an inflammation of the villous coat of the intestines in the forms of looseness and dysentery, and colic and obstructions of the intestines. Flatulency, obstipation of the bowels, dry gripes, or flux, painful tension of the belly, incessant vomiting, discharges of black flaky and bilious matter, or worms, &c. frequently observed in urgent cases

of yellow fever, prove the existence of inflammation and obstruction of the intestines in cases of yellow fever.

The malignant sore throat also modifies the complexion of yellow fever, and even constitutes its essence in many cases, as Dr. Rush has proved in his description of the various and multifarious invasions of the disease. "The disease appeared with different symptoms in different persons," says he, "as obstinate costiveness, &c. hoarseness and sore throat, low spirits, disposition to nocturnal sweats," which gradually approach and advance towards its utmost violence. These symptoms of pain in the throat and difficulty of swallowing, &c. we have observed to characterize inflammation of the throat of the kind that rapidly terminates in gangrene of the whole fauces in cases of yellow fever. It comes on with cold shiverings, sickness at stomach and vomiting, great heat succeeding the chills, restlessness, thirst, great prostration of strength, oppression of the chest, flushing of the face, redness of the eyes, stiffness of the neck, hurried respiration, hoarseness of the voice, soreness of the throat, fiery redness and lividness of all the internal parts of the mouth and throat, swelling of the tonsils, and in the advanced stage of the disease sloughs of an ash or dark brown colour on the parts, offensive breath, blackness of the tongue and mouth, vesicles containing an acrid matter on the inside of the lips, and a purulent discharge pouring from the nostrils, exist. Purging sometimes ensues, and the pulse is small, frequent, irregular, and evening exacerbations and morning remissions of fever, supervene. Livid spots on the body, ulcers of the throat, delirium, or stupor, vomiting of bilious matter, starting of the sinews, profusions of blood, or convulsions, close the terrible scene. Malignant catarrh, or influenza, scarlet fever, measles, &c. often enter the composition of this distemper. The complexion of morbid phenomena called plague, often constitute yellow fever in its

most terrible forms. For deafness and dimness of sight, swellings of the parotid, inguinal and axillary glands, livid spots, blains and carbuncles have appeared in many cases of yellow fever, which proves its identity with plague. Drs. C. Chisholm of Grenada, Williams and Hume of Jamaica, Rush of Philadelphia, have all mentioned the presence of buboes, carbuncles, blisters, blotches, eruptions on the skin of a livid and gangrenous appearance, and ulcers in many cases of this distemper. In short, all other inflammatory affections, as small pox, measles, catarrhs, sore throats, rheumatisms, miliary and scarlet fevers, erysipelas, consequences of injuries, &c. generally become yellow fever in autumn, or degenerate into bilious malignant pestilence. Puerperal women commonly fall into the disease in the autumns of America, and perish under the accumulated evils of yellow fever, attended with all the symptoms of black vomiting and yellowness of the skin. These circumstances of well-attested facts, all tend to evince the truth of my universal proposition, advanced in proof of the doctrine of febrile diseases, namely, that all these distempers have the same identical nature in all their various complexions, modifications and combinations of inflammation, or that inflammation of the internal organs of the body in the summers and autumns of all hot regions, constitute yellow, bilious, malignant, remittent and ardent pestilence of every climate of the earth. Dysenteries too are symptoms which frequently appear among the bilious morbid phenomena of yellow fever, attended with all the peculiar symptoms of griping, excruciating pains of the tortured intestines, urgent desire to go to stool, slimy and bloody, bilious and oily, putrid and ramentous discharges from the bowels, retention of the natural ordure, vomiting, sometimes pain in the right hypochondriac region, &c. which show us, that the inflammatory affection occupies the colon or large intestines,

in some of its portions, especially the left flexure and fundament, as we have shown in treating of the intestinal symptoms of the disease. Looseness or diarrhœa of the bowels, which often accompany yellow fever, evidently appears to manifest the existence and seat of the inflammatory mischief in the villous coat of the small intestines, that sometimes commences at the beginning, and in many cases in the advanced period of the disease. In fact all of the internal organs may be inflamed in combination with the same affection in the coats of the intestines, as we have already demonstrated.

THE APPEARANCES ON DISSECTIONS.

The dissections of the bodies of those who have died of yellow fever, and all other modifications of compound inflammation, demonstrate the causes, nature, and combinations of all febrile diseases, whether they have been called yellow, bilious, remittent, intermittent, malignant, pestilential, nervous, slow, ship, jail, vernal, autumnal, or summer and winter fevers, measles, smallpox, influenzas, catarrhs, &c., all inflammatory diseases of some of the internal organs and parts, as we have manifested in the preceding chapter, and thence confirm our sentiments delivered in these pages, respecting them in all their forms; so that we have no occasion to repeat the substance of what we have spoken concerning the diseased appearances, on examining the bodies of the dead in yellow fever; but to evince the truth and certainty of the doctrine, that maintains the sameness of the nature and identity of the symptoms and morbid appearances, in all febrile diseases, we shall here relate the diseased conditions and states of the several organs most commonly affected by the inflammation, which constitute their essential characters and modifications.

The *Brain*, in all cases where an internal affection of the head formed the prominent feature of the disease, has been found highly inflamed, suppurated, corrupted, and sphacelated in its substance and membranes. The vessels of its investing membranes distended and gorged with blood, or even ruptured in many cases of sudden death. Blood is extravasated in the brain, and its whole volume is increased, hardened, or softened in its texture and changed in its colour. Effusion of watery yellow green fluid has been often observed in the chambers and convolutions of the brain. Purulent matter and sanies are found between the membranes and in the substance of the brain, depositions of coagulable lymph on its surface, and collections of humours in the cavities; and the substance of the brain is sometimes reduced to a pultaceous mass, like white rotten pears, with greenish yellow water in the ventricles and ulcerated places. Dark gangrenous spots are often observed in different parts, as if the patient had died of sphacelus of the brain. The first great membrane is often thickened, and adhering to the skull in many cases. Indeed, inflammation, suppuration, corruption, abscesses, serous and sanious colluvies, ichorous and purulent stagnations in the ventricles and recesses and membranes and substance of the brain, are observed in various places of that important viscus, as happen in apoplexies, epilepsies, palsies, lethargies, dropsies, convulsions, melancholies, mania, phrenzies, inflammations, insolutions, concussions and compressions of the brain.

The *Throat* is often found inflamed, ulcerated, sphacelated, often covered with a thick black crust, contracted by swellings of the tonsils, parotids, tongue, curtain and the pendulum of the palate; purulent stillations of the nostrils exist, and the whole coats of the gullet, from the mouth down to the stomach, are often corroded.

The *Lungs* in these diseases are often found after death

inflamed, suppurated, gangrenous, or converted into a soft pulpy friable mass of purulence, swimming in serous and sanious fluids in the cavity of the chest. The lungs are frequently gorged with dark coloured blood, stuffed with phlegm, or purulent matter. The covering of the lungs and lining of the chest commonly have mortified spots upon them, and their texture broken down into a corrupted mass, or contain abscesses of corrupt matter.

The *Heart* and its covering are frequently inflamed, suppurated, ulcerated, and changed in its appearance, being either enlarged in size, distended with coagulable lymph in its internal surface, gangrenous, and the membrane filled with water or matter.

The *Midriff* has been found inflamed, suppurated or gangrenous in its coats, and corrupted in various parts of its substance, in some of the most violent cases of the disease.

The *Stomach* is most commonly the seat of the inflammation in cases of yellow fever. It is often affected with an intense degree of inflammation. Its substance is found thicker, and a very great degree of deep or florid redness of its inner villous membrane or coat. Portions or the whole of the inner coat is often destroyed by abrasion or sphacelation. Suppuration frequently happens, and abscesses occasionally appear in that viscus. The gangrenous and sphacelous specks, or spots, or blisters of the villous coat of the stomach and intestines peel off and constitute the *Black-vomit*. We have often found the stomach highly inflamed, inflated, gangrenous in different parts, sometimes ulcerated, covered with a thick layer of coagulable lymph, having abscesses on the external fatty coat, and loaded with black flaky and grumous matter, mixed with mucus or phlegm, and even dissolved by disease and gastric juice into holes, and rendered rotten in its texture. Indeed the acrid gastric juice or some other acrimonious fluid generated in the

disease, corrodes the stomach as if the person had taken arsenic.

The *Intestines* are almost always affected with inflammation of their villous, peritoneal and muscular coats in yellow fever. In the subjects of dissections we have observed inflamed spots and parts, with black gangrenous specks or blisters, and the whole intestines interspersed and covered with dark sphacelated spots, erosions, ulcerations, and very often reduced to a state of rotten putridity, and wasted in all their membranes and coverings. Sometimes their muscular coat is highly inflamed, thickened and suppurated in many parts, and the canal of the intestines loaded with gangrenous matter, putrid and diseased excrements, mixed with bile and offensive fluids of a morbid nature.

The *Peritoneal* lining of the belly and covering of the intestines, together with its contents, is commonly found inflamed, gangrenous, and converted into a pulpy rotten mass, swimming in a puriform green or yellowish serous fluid or water, adhering to the flesh of the belly, or glued to the intestines with coagulable lymph, and inflated through all its cavity. The portions of the caul covering the stomach, liver, spleen, reins, bladder, and womb, are frequently diseased, to the common disorder of the functions of these important organs, as we have already shown. An effusion of water takes place in its cavity, and constitutes dropsy of the belly in many lingering cases of the disease.

The *Mesentery*, or connecting membrane of the intestines and doubling of the caul, is affected with inflammation in its layers, tumours of the numerous glands lodged in its duplicatures, abscesses, indurations, and obstruction of them, covered with watery vesicles or bladders, tubercles, and depositions, filled with air or water, appears dark and dirty, wasted and corrupted and putrid in all its connexions.

The *Liver* has been most frequently found inflamed, sup-

purated, distended with matter, or infarcted with blood, sometimes flaccid and shrunk to half its natural size, discoloured to a buffy or white appearance, sometimes indurated, gangrenous and putrid, covered with dark blisters, and tubercles of a brown and white colour. The gall bladder is often turgid or flaccid, grayish and destitute of bile, and frequently gorged with black viscid bile, and its duct is obstructed in many cases to the production of universal yellowness of the skin. A diseased liver always produces yellowness of the skin in all fevers and inflammations.

The *Spleen*, in many cases of autumnal fevers, is found inflamed, enlarged, gorged with blood and a tarry coloured fluid, presenting the appearance of congealed blood wrapped up in a membrane, with its structure totally destroyed, often indurated and grown to an enormous size, filling the whole belly, which indurations are commonly called ague cakes, and are generally found in those who die of agues in the East Indies. Some have supposed that the black-vomit is an ejection of this black matter of the spleen.

The *Sweetbread* has been found diseased with inflammation, suppuration, ulceration, induration, morbid softness, and disorganization of its substance, to the universal destruction of intestinal digestion and assimilation.

The *Reins*, in cases of yellow fever, are found inflamed, enlarged, converted into abscesses, ulcerated, gangrenous, morbidly soft, or hard and tumid, which manifest the previous existence of inflammation and its consequences.

The *Bladder* and *Womb* have been also found highly diseased in the subjects of fever, with inflammation and its various consequences of suppuration, ulceration, thickening, contraction and gangrene.

The *Integuments of the body* have been frequently seen diseased in a great degree, in consequence of a violent febrile distemper, as inflammatory eruptions, effusions of blood

under the skin, biles, pustules, water blisters, black sores, or gangrenous ulcers, dark red blotches, red pimples, clay or yellow colour of the skin, blistered parts turned into deep ulcerations, &c. which displayed the violence and rapidity of a malignant distemper.

The *Glands* of the neck, skin, armpits, nostrils, groins, lungs, stomach and bowels, were inflamed, suppurated, ulcerated or sphacelated in all their internal substance. Carbuncles too have been observed on the back, limbs, belly, &c. containing a thin, dark coloured and bloody fluid or purulent matter.

The *Blood-vessels* are found turgid or ruptured in the various cavities of the nose, ears, eyes, mouth, brain, lungs, bowels, skin, and in all the vital organs. They are often corroded with deep gangrenous inflammation and mechanic erosions of the different textures of the vascular parts.

The *Nerves* are generally diseased in all the subjects of fever in a degree altogether incompatible with the preservation of their functions and of animal life. The brain, as we have already shown, and the spinal marrow, are often found in a state of disease, which is known by the convulsions, faintings, swoonings, palsies, epilepsies, apoplexies, tremors, locked-jaw, cramps, loss of swallowing, sensation, reason and vision, involuntary motions of the muscles and insensible evacuations of urine and stool, &c. which accompany fevers as the original affections or their consequences. The most important nerves of the stomach and intestines, immediately proceeding from the fountain of all nervous influence, the brain and spinal marrow, suffer exceedingly in all cases of yellow or any other fever, which consists in an inflammation of those internal organs. The dismal effects of inflammation and corrosion of the nerves of the stomach, intestines, heart, liver, midriff, &c. shall be enumerated among the symptoms of the fever, and we shall

mention that these sensible nerves have been found wasted, corrupted with the villous, muscular, peritoneal membranes and porous contextures of these organs, swollen into tumours, highly inflamed in their sheaths and filled with water, and totally gangrenous and dissolved, whereby the functions of the nerves would soon be lost, and the sick would be suddenly launched into eternity. If the irritation or inflammation of a nerve of the foot produce locked-jaw, what will the inflammation and irritation of so many thousand nerves of the vital parts not induce in cases of fever? All impressions, sensations and circulations, are raised to an intolerable height and then reduced to a mortal depth of depression.

The *Lymphatic vessels* are often obstructed and distended with lymph, inflamed, gangrenous as in erysipelas gangrenosum, thickened with scrophulous and cancerous depositions, or sebacious matter, which diseased conditions of these absorbent vessels induce dropsies in different parts and cavities, or general consumption of the body, according to the branches of that system, which are obstructed in their course.

The *Mucous Bags*, connected with the joints to lubricate the tendons of muscles in their motion and friction, are very often found inflamed, relaxed, and filled with a morbid fluid. The tendons and ligaments themselves are often observed to be red, thickened, and gangrenous, in some of the most important joints. These morbid appearances are found in those cases where rheumatic affections of the joints formed the most characteristic signs of the disease.

The *Animal fluids* also undergo great changes in febrile diseases, or compound inflammations. The blood is often rendered acrimonious by the retention of bile and urinous salt, introduction of poisonous materials secreted by diseased glands and conveyed into the circulation by the ab-

sorbents, or is contaminated by the presence or absence of its constituents in undue proportions, known by its preternatural fluidity and thinness, changes of colour, loss of plastic consistence, &c. which has been called dissolution of blood. The suppression of saliva or moisture of the mouth, tonsils, &c. corruption of the fluid of the nostrils, juice of the stomach and intestines, vitiation of the fluid secreted by the sweetbread, acrimony of bile and all other humours formed in the internal organs and cavities, which may exist in some degree previous to our knowledge of the presence or existence of the disease of the substances and membranes of the entrails themselves, but are generally produced by the disorganization of their textures and functions consequent to inflammations and lesions of their natural structures.

THE SYMPTOMS OF THE PESTILENCE OF AMERICA.

HAVING opened up the essential nature of yellow and every other fever, we come now to enumerate the various symptoms of this complicated disease, in its different modifications and combinations, which we have implied and expressed in the preceding chapters, in order to convey correct and adequate ideas of the subject to all attentive readers, in a clear manifestation of every possible gradation of the morbid phenomena.

The *Cerebral* modification of the disease commonly exhibits the symptoms of sudden and unexpected giddiness, dimness of sight, confusion and oblivion of the senses, loss of motion, whereby the subject of the invasion falls insensible to the ground, and generally remains half an hour in a state of insolation or apoplexy, or asphyxy, or fainting. During this dilemma his body becomes cold and covered with an abundant cold sweat, which seems to issue from every pore in a vast excess and profusion. The period of

coldness and insensibility having finished, a heat gradually comes on and rises to a preternatural degree of intensity ; the pulse becomes quick, small, hard or variable ; the head, especially the forehead and hindhead, aches vehemently ; likewise pains of the back, sides and limbs, and oppression of the heart supervene ; the eyes are inflamed, watery, prominent, suffused or wildly rolling, and the whole face is flushed ; nausea and vomiting, stupor or delirium, dryness and hotness of the skin, extreme prostration of strength, white foulness of the tongue, great thirst, anxiety, watchfulness, convulsion, constipation, redness of urine, frightful dreams, &c. occur, and raise the action of the heart and arteries to their utmost degree of excitement ; then the violence of all the symptoms begin to abate, and all the evils gradually descend, and the motion of the vessels becomes even lower than natural, constituting a remission more or less distinct, according to the seat and degree of the local affection in the brain. Meanwhile a copious sweat, induced by the excessive excitement and exhaustion of the moving powers, diminishes the burning heat of the body and lowers the reaction, which in the order of nature is designed to effect that purpose for the preservation of life in the solution of the ardent fever, which commonly happens in 12, 18, 24, or 36 hours from the commencement of the paroxysm, and brings the patient into a state of coldness, profuse cold sweat, somnolence, confusion and torpor of the senses, languor and exhaustion.

A short interval of ease and reason follows the repose obtained in the abatement of fever, and the patient generally flatters himself with the prospects of recovery ; when all the symptoms of vehement fever again begin to return with their former violence, rise to their utmost degree of excitement, and again descend in the same manner below the natural standard of animal temperature. Sometimes, how-

ever, the patient expires in the hot period of the first, second or third paroxysm, under the accumulated and additional evils of convulsion, apoplexy, stupor, &c. ; or he enters into a new state of continued excitement, heat, delirium, clammy sweat, swelling of the face, incessant watching and disturbed slumbers, sighing, starting of the tendons, tremours, coldness and insensibility of the body, &c., which compose the typhoid form of fever, depending on the degree and seat of the affection of the head, that is often combined with inflammation of some other organ of the living system ; while the distinct remissions or intermissions, observed to happen in many of the modifications of fever, constitute the remittent and intermittent fevers of ancient and modern authors of medical histories.

The *Anginous* modification of fever approaches with the symptoms of chilliness, shivering, hoarseness, soreness of the throat, weariness, languor, hot flushings, pains in the head, especially in the forehead and eye-balls, tumour of the head, profusion of tears, dizziness and heaviness, inflammation or suffusion of the eyes, loss of taste and appetite, difficulty of breathing, cough, nausea and vomiting, pains of the limbs, back and neck, hotness and dryness of the skin or profuse sweats, quickness, hardness, tension, or frequency, weakness and softness of the pulse, bilious discharges by vomiting and stools, great and immense prostration of strength, &c., which comprehend all affections of the different parts of the throat, as inflammation of the larynx, pharynx, tonsils, parotids, trachea, nostrils, &c. which enter the composition of yellow fever in the autumnal season of the year.

The *Pulmonic* modification of yellow fever consists in lassitude and languor, rigours alternating with flushes, continued heat, swollen and flushed countenance, suffusion of the eyes, obtuse or acute pains in the centre, sides of the

chest or region of the heart, a sense of weight and oppression in the breast, constant difficulty of breathing, a strong, frequent, and regular or irregular pulse, great thirst, white tongue, high-coloured and scanty urine, costiveness, a hard or tickling cough, vomiting of bilious matter, debility, fainting, convulsions, pain about the margin of the lower ribs, &c., which indicate the local affections of the substance of the lungs, pleura, heart, &c. in the cavity of the chest.

The *Gastric* modification of yellow fever is constituted of burning heat and pain in the stomach, incessant vomiting of all ingestions and bilious black flaky matter, sudden and vast prostration of strength, small, hard, contracted and rapid or intermittent pulse, extreme anxiety and painful retching, soreness, tension, and tenderness of the pit of the stomach, increased upon pressure, food or motion, great thirst, hiccough, low delirium, coldness of the stomach and extremities, fainting, dryness and blackness of the tongue, &c., which show the seat of the local mischief to be in the stomach, that is commonly combined with the same affection of the intestines, &c.

The *Intestinal* modification of yellow fever is distinguished by pains in the abdomen more or less acute, increased upon pressure, motion in bed, twisting about the navel, obstinate costiveness, frequent vomiting of bilious, putrid, or black flaky matter, tension of the belly, a slow, hard and contracted pulse, great loss of strength, red urine, livid and cadaverous colour of the face, hiccough, starting of the tendons, a low delirium, difficulty or suppression of urine, diarrhoea or dysentery, convulsions, &c., which gradually increase till a resolution is effected by remedies, or the patient is subjected to the lingering disease of intestinal ulcerations, or is doomed to death by gangrene of the bowels.

The *Hepatic* modification of fever depends on the peculiar

symptoms of inflammation of the liver, &c., which are acute or obtuse pains in the right hypochondriac region, or deeply seated in the pit of the stomach, and extending to the spine and into the chest, and to the top of the shoulders, numbness of the arms, incapacity of lying on the opposite side, dry cough, difficulty of breathing, yellowness of the eyes and skin or complete jaundice, costiveness or looseness of the bowels, vomiting and dejection of bilious matter, hiccough, fulness of the stomach, indigestion, flatulence, dejection of mind, sickness at stomach and retching, strong, hard and frequent pulse of 90 or 100 in a minute, sometimes intermittent and irregular, &c. which characterize inflammation of the liver both of the acute and chronic kinds, situate in the concave or convex, upper or lower surfaces, or right and left lobes of that organ.

The *Nephritic* modification consists of a vehement fever, pains in the loins, in the region of the kidneys, extending down along the course of the urinary ducts through the belly, a numbness of the leg and thigh and a retraction of the testicle of the affected side, nausea and vomiting accompanying the paroxysms of acute pain, red, mucous, or bloody urine, painful micturition or difficulty of urine, costiveness, hiccough, delirium, severe rigours, &c. in combination with other symptoms, peculiar to the local affections of the caul, bladder, &c.

The *Splenetic, Pancreatic, Hysteric, Cystic, Cardiac, Diaphragmatic, Peritoneal* and *Mesenteric* modifications of fever, have been sufficiently explained in our illustration of the nature of this yellow pestilence of America, and may be easily known by the pains being fixed in the regions of these organs, and the peculiarities of the symptoms themselves, attending inflammation of such vital parts; for instance, palpitation of the heart, fainting, irregularity of the pulse in affection of the heart, and Sardonic laugh and pain across

the margin of the lower ribs in cases of affection of the diaphragm; so we shall pass on to another modification of this distemper.

The *Articular* modification of yellow fever consists in pains of the joints, either shooting from joint to joint or fixed in them, tremour and tension of the knees, hips, shoulders, ankles, wrists, loins, &c., accompanied with vehement rigours, flushes, thirst, restlessness, anxiety or anguish, hardness, fulness and quickness of the pulse, great whiteness of the tongue, loss of appetite, obstinate costiveness, redness and paucity of urine, gangrenous blotches, vesications, headach, great debility, vomiting of bilious or putrid matter, delirium, yellowness of the skin in many cases, cold clammy sweats, &c., which demonstrate the inflammation to be seated in the principal joints of the body, to constitute yellow fever in the summers and autumns of tropical regions. In this complexion of the disease the local inflammation occupies the membranes and tendons, aponeuroses of muscles, and the bursal and synovial bags and surfaces, injuring their textures, nerves, absorbents, veins, arteries, &c.

The *Cuticular* modification of yellow fever is formed by the symptoms of inflammatory diseases of the skin, glands, lymphatics, &c. as pustules, pimples, vesicles, biles, carbuncles, red or livid blotches, puffy and dropsical swellings of the integuments, tumours of the glands of the groin, armpits, neck, internal and external fauces and testicles, and all the train of cuticular eruptions, which, being inflammatory affections of the external parts, modify the complexion of yellow fever in combination with bilious disorders of the alimentary system, and other internal local affections.

These are the most common modifications of yellow fever, and appear to me to be sufficient to enable every man, especially every practitioner of medicine, to recognize all its various forms and gradations, that may fall within his view,

or come under his care ; but to render their knowledge of all the morbid symptoms of yellow fever more perfect in all the collateral circumstances and anomalous appearances attending its presence, I shall enumerate some of the accidental evils, which often occur in the different assemblages of the morbid phenomena. Sometimes worms in the alimentary tube, hæmorrhages from the nose, ears, eyes, mouth, lungs, intestines and fundament, remissions and exacerbations, intermissions and continuations of the fever, total obstructions of the intestines, liver, spleen, &c., black vomit, apoplexy, palsy, lethargy, epilepsy, blindness, madness, deafness and dumbness, dysentery, asphixy, profuse sweats, clay colour of the whole body, yellowness of the skin, colic and cholera, dropsy, catarrh, putrid odour of the body, &c. exist ; which symptoms, although they are essential to some of the local affections constituting the different modifications of yellow fever, rarely happen in the generality of cases of the distemper, that come under the treatment of the physician, and often perplex him in his choice of particular remedies.

DISTINCTIONS OF THE PESTILENCE OF AMERICA.

In former systems of medicine the art of distinguishing diseases from each other formed a great part of the business of the physician in the cure of different diseases, and his penetration and skill in this art determined his success in the method of treatment ; but, in our new system of medicine, wherein all fevers and inflammations are considered to be identically the same diseases, all requiring the same general plan of curation, this great art of distinguishing them can only be employed to discover the real primary and secondary seats of the local inflammation : no particular distinction is demanded to influence our choice of me-

thods or remedies, no elucidation of the different types of fevers, no explanation of their spontaneous crises, no illustration of their anomalies are required to perfect a mechanical and blind knowledge of their proximate causes: all modifications of simple and complex inflammations, partaking of the same essential nature, indicate the same remedies, varied in some measure and extent, to subdue the different gradations of the morbid disorganizations and disorders of the animal functions. Indeed, to render our practice successful, it is of great importance to have a perfect knowledge and understanding of the seats of the inflammation in all cases of fever, in order to an effectual direction of the remedies employed to accomplish its reduction, on the supposition, that inflammation of the brain and bladder would require some variety of treatment in the use, application and extent of the remedies. A knowledge of the different seats of the local affection, presupposes a perfect understanding of the relative situations of the different internal organs and parts of the body, whereby we acquire a knowledge of the diseased conditions of them by the external morbid symptoms, which indicate their existence and presence in the animal constitution. To acquire a knowledge of their seats we refer you to the chapter on the explication of its nature, where the essential signs of each modification are enumerated, to demonstrate, at once, its nature and situation, in the different internal organs. For example, a vehement pain in the head, attended with fever, indicates inflammation of the brain, excepting violent excitement, arising from some other local disease, should induce pains in the head, as a secondary evil and consequence of fever produced by such primary inflammation. A violent pain in the right side about the margin of the lower ribs, attended with great fever, manifests the presence of inflammation of the liver and so forth.

PROGNOSTICATION OF THE EVENTS OF THE PESTILENCE
OF AMERICA.

To premonstrate the favourable and unfavourable events of yellow fever, we have only to enumerate the terminations of the local inflammation, in the various modifications of the distemper, viz. RESOLUTION, SUPPURATION, EFFUSION and GANGRENE, which comprehend all the common events of every fever or inflammation in nature.

Resolution of the inflammation is the most desirable, as it is the most favourable of all the terminations of the local disease. It consists in a complete reduction of the diseased parts to their natural healthy conditions and functions, in the total annihilation of the affection, by the use of remedies. An equally free perspiration, a copious common looseness of the bowels, much sediment in the abundant urine, softness and quietness of the pulse, abatement of all the febrile symptoms, fruition of natural sleep, gradual subsidence of the local affection and return of all other natural functions, premonstrate the approach of convalescence, in consequence of a total resolution of the local inflammation. This favourable termination of the local affection in yellow fever is generally obtained in the second, third, fourth, or fifth day of the disease, according to our improved method of treating it in all its combinations.

The *Suppuration* of the inflamed parts is the least desirable event of the disease, especially when the inflammation occupies the brain, lungs, heart, diaphragm, liver, stomach, intestines, or any other internal vital organ; for the consequences of such a termination are either immediate death, or lingering illness and continual misery and ultimate dissolution, in the forms of internal dropsy, madness or lethargy, palsy, consumption, ulceration, abscess, indigestion,

dysentery, &c., attended with the symptoms of a vehement hectic fever, which remains during the rest of their days. The existence of suppuration may be discovered by the continuance of the inflammation without any symptoms of resolution, effusion or gangrene ; by the remission of the pain of distension, and accession of the pain of pulsation ; by the greater fulness and softness of the pulse ; and by the sudden approach of shivering, which happens in the fifth, sixth, seventh, or eighth day of the disease, according to the violence and peculiarity of the affected parts.

An *Effusion* of lymph, water, blood, or any liquor of a morbid nature, into the serous, mucous, fibrous, cellular and synovial membranes and different cavities of the brain, chest and abdomen, is proximate or ultimate death, or perpetual disorganization of the natural parts. Effusion of water into the cavities of the head, chest and belly constitutes dropsies of these parts ; an effusion of blood into the brain produces apoplexy, epilepsy or palsy ; an effusion of serous fluid into the cellular texture makes a dropsy of the flesh ; and the effusion of synovia produces a dropsy of the joints, and so forth. The effusion of liquors into the brain is known by the symptoms of apoplexy, lethargy, epilepsy, palsy, &c., as constant delirious watching or profound sleep, dilatation of the pupils, grinding of the teeth, tremours, involuntary evacuations of urine, stool, saliva and tears, quickness and weakness of the pulse, redness of the eyes, burning heat of the body, loss of deglutition, motion, vision, sensation and reason, coldness of the extremities, convulsions, &c. which premonstrate the approach of inevitable death. An effusion of watery fluid into the chest, lungs and heart, is known by the great difficulty of breathing, asthma, strong hardness of the pulse, swelling and purple colour of the face, a sense of weight and oppression, intermittent pulse, palpitation of the heart, deep cough, expectoration of frothy

white phlegm, difficulty of lying down on one side or on the back, dropsical swellings of the legs, disturbed sleep, &c. which gradually come on and advance to a fatal termination, in consequence of fevers.

Gangrene is a very common termination of yellow fever, in tropical regions. Every inflammation of the stomach, intestines, caul, inner membrane of the brain, fauces, pleura, &c. in all violent cases, runs into gangrene. The presence of gangrene in inflammations of the stomach and bowels, as well as of other parts, may be easily known by the sudden remission of the pain, the feebleness and weakness of the pulse, increased anxiety and debility, or total relief from all agonies, with cold, clammy, partial sweats, fainting, ghastly paleness of the countenance, the absence of the symptoms of resolution, suppuration, or ulceration, and a total cessation of the sympathetic fever, which generally happen in the third, fourth, or fifth day of the violent inflammation.

These are the most usual terminations of inflammation, and these are common events of all such local affections; but there are other morbid consequences of yellow fever, which must not be passed over in silence, on this important subject, in more slight cases of inflammation. Sometimes coagulable lymph is effused on the contiguous surfaces of the internal membranes and organs of the cavities of the chest and belly. Acute moderate inflammation of the pleura of the ribs, or of the pleura of the lungs, often glue the lungs and sides together by the process of adhesion, which remain in union during the remainder of life. The most prominent symptoms of such adhesions are lacerating pains in the sides on much exercise, shortness of breath, infirmity and emaciation, &c. Such adhesions frequently connect the skull and the exterior membrane of the brain, the contiguous portions of the intestines to each other, the posterior surface of the

stomach and a portion of the intestines to the liver, the liver to the diaphragm and caul, the spleen to the surrounding parts, as to the fundus of the stomach, to the diaphragm and to the arch of the great intestine, the bladder to the intestine of the fundament and to the womb, the vaginal coat to the testicle, the ovaria to the vicinal parts, the pericardium to the heart, &c.; indeed the depositions of this conglutinating lymph, in cases of slighter and slower inflammations, will glue contiguous viscera together in close organization; which morbid adhesions generally impede in some measure the natural functions or motions of such connected parts or viscera. Ulcerations of the lungs, bowels, stomach, &c. are frequently the fatal terminations of inflammation, in cases of bilious malignant fevers.

THE CURATION OF THE PESTILENCE OF AMERICA.

We come lastly to speak of the method of curing yellow fever; and in treating of this part of our subject, we refer you to our dissertation on the modes of treatment and remedies of the ancient and modern physicians, for information of their practice in all febrile diseases, to be found in our preliminary discourses, which deliver a history of medicine, and shall immediately proceed to institute the method of curing yellow fever, the modification of disease under consideration. In executing this part of our subject we shall find less difficulty than our predecessors have experienced, without the knowledge of the essential nature of the diseases of which they treated in their works. For having discovered the real nature of fever, and having acquired a perfect knowledge of all its combinations and modifications, we are better prepared to institute the rational, experimental and certain method of curation, which, in the hands and under the direction of judicious and skilful practitioners of medicine, that choose to

adopt it, will always be found successful in nineteen cases out of the twenty, when the remedies therein recommended are employed in due time, and to sufficient extent, to arrest their progress and to nullify their very existence.

Previous to the particular illustration of the remedies included in the method of cure, established on the basis of a new maxim or principle of practice, it appears absolutely necessary to premise, that our new method of treatment presupposes a certain knowledge and belief, that every fever, in its acute period, is an inflammation of some of the internal vital organs, or parts of the body, which would make as many modifications as there are parts or viscera in the body ; as the Cerebral, Spinal, Pulmonic, Pleuritic, Cardiac, Tracheal, Œsophageal, Diaphragmatic, Gastric, Hepatic, Splenic, Nephritic, Intestinal, Peritoneal, Mesenteric, Glandular, Muscular, Articular, Osseous, Cuticular, Cellular, &c. modifications of fever, already demonstrated, which all require the same method of cure in their acute stages, properly adapted to each combination, in the administration and application of the remedies to be employed in them, according to their relative degrees of violence and complication :—That it presupposes also a perfect understanding, that every modification of fever, in its chronic period, requires the same mode of treatment in every given case, varied in the extent and choice of the remedies to be employed in them, according to the relative morbid conditions of the organs or viscera affected ; so that we will be under no necessity for instituting different methods of treatment for each complexion, as if they were distinct diseases ; but to institute a method of cure, that will comprehend an indication exactly suiting the remedies to the acute, and an indication accommodating the remedies to the chronic period of one and the same disease, in its accession, progression, augmentation and termination, in health or morbid condition :—

That it presupposes every practitioner qualified in mind and body to suit all these remedies exactly to the violence, seat, complexity and duration of every case of the distemper, and to proportionate them to the ages, conditions, sexes, constitutions, habits and passions of his patients, in every case, guided and directed by the general maxim and principle, which the doctrine of fevers has taught him in his prior studies:—That it presupposes these remedies to be sufficient in their virtues to subdue the most violent modification of fever, when rightly and vigorously administered and employed for the purpose of resolution. Hence this one common method of cure for all febrile diseases, comprehends two great indications, the one to direct the remedies absolutely necessary in the acute, the second to show the remedies beneficial in the chronic period of the fever or compound inflammation.

The first great indication of cure necessary to exhibit the remedies in the acute period of every case of fever, is to reduce or resolve the local inflammation, in the shortest space of time, whether the local affection exists in the brain, lungs, heart, midriff, stomach, intestines, liver, spleen, spinal marrow, kidneys, caul, mesentery, bladder, womb, joints, &c. by BLEEDING, PURGING, SWEATING, BLISTERING, and COLD AFFUSION, with the best medicines and means, judiciously and vigorously employed to effect that great and important end, in the first two days of the disease, so that the whole of the inflammation of the internal organs be quickly and finally subdued, and all the functions of the body totally delivered from the load of morbid evils into the safe custody of restoring nature.

The second great indication of cure in the chronic period of every acute fever, is to assist nature in restoring all the functions and parts to their sound natural conditions in their actions, motions, sensations and operations, by *Nutrients*,

Tonics, Aromatics, Alterants, Evacuants, Solace, Exercise and Amusement, which may in any way or degree impart vigour and tone to the nerves, absorbents, lymphatics, muscles, joints, membranous fibres and intellectual powers. And from the constitution of these two indications, we may clearly see the great intentions and ends of all our remedies, and the absolute necessity of employing all those included in the first indication with all possible decision, judgment, diligence, vigour, perseverance, and resolution in their execution, in the two first days of every violent case of fever, in order to render them effectual to resolve the local inflammation, congestion and obstruction of the vital organs, canals and vessels, during the acute period of the distemper; and to make all our remedies comprised in the second indication successful in the chronic period of the disease, in restoring our patients to health and enjoyment.

DETRACTION OF BLOOD.

Mission of blood is the principal remedy in all simple and compound inflammations or fevers, during the acute period of their existence. This operation must be performed and repeated in all cases to an extent suited to the violence and danger of the modification, and admitted by the constitutions, ages, habits, sexes and conditions of our patients. In a strong robust man, labouring under an inflammation of the liver, accompanied with all the usual signs of yellow fever, it sometimes requires the mission of eight or ten pounds of blood to reduce it and to prevent suppuration, aided with the use of purges and warm bath, to render the detraction of blood effectual and sanative. In a stout young man it is often necessary to draw five or seven pounds of blood to resolve an inflammation of the brain, lungs, bowels, heart, &c. in the two first days of

the disorder ; and in a thin, weakly person, two or three pounds of blood drawn in the first two days of the disease, will often be sufficient to subdue any modification of inflammation. So we must draw a pound, or two pounds at a time, and repeat that operation, as often the first and second day as the patient can bear, to reduce the febrile excitement, pain of the organ or part, and every other complaint that may exist, and to bring all the functions of the body to their natural standard of motions, actions and sensations. A strong full pulse of a hundred pulsations in a minute, must be reduced to nearly the natural standard of sixty or seventy ; a violent pain in the head, back, chest, loins, sides or belly, must be immediately removed by copious venesection. The propriety, necessity, quantity, and repetition of bleeding, depends upon the strength and fulness of the system ; upon the youthful and unseasoned constitutions, the effects of the first missions of blood ; upon the period of its employment, and the general oppression of all the vital functions. Many other circumstances in the subjects of the disease, and the violence of the excitement, influence our practice in this operation.

The propriety of venesection in cases of fever, appears in the effects of the operation. It lowers vehement excitement of the vascular system, and prevents the invasion of apoplexy, epilepsy and congestions in the brain, besides reducing the primary local affection ; it removes the disposition to faint ; it reduces the frequency and increases the natural fulness of the pulse ; it renders preternaturally frequent pulse naturally slow ; it remedies the sickness at stomach and vomiting ; it disposes the body to sweat naturally ; it removes the burning heat and dryness of the body ; it cures the febrile chilliness experienced in all fevers ; it renders costive bowels open and free ; it prevents, or removes looseness and dysentery ; it suddenly cures intolerance of

light ; it removes stupor or delirium ; it induces natural sleep ; it prevents spontaneous bleedings, the chronic stages of the disease, as cough, consumption, jaundice, abscesses, dropsies, indurations of the spleen and liver, adhesions of parts, ulcerations of the intestines, stomach or lungs, gangrene and all other fatal terminations of the disease ; it removes all depression and oppression of the animal powers ; in short it totally and finally annihilates or exterminates the very existence of the disease by resolving the local inflammation ; hence we may see the great utility of repeated venesections in all cases of yellow fever. If we do not bleed largely in this fever the morbid excitement rises very high, and generally terminates in sudden death, in the forms of congestion in the brain, suppuration, effusion and gangrene of some of the vital organs, which manifest the necessity of vigorous and repeated missions of blood.

The time of employing this great remedy is the beginning of the acute period of the distemper, when the local inflammation exists in all its vehemence and recentness. If we bleed copiously in the chronic period of the fever, when suppuration, effusion, congestion, ulceration, or gangrene has taken place, it would hasten the dissolution of our patients. The fatal consequences of bleeding in the chronic stage of the disease, as well as bleeding too little in the acute period of it, have brought this indispensable practice into disrepute among the theorists and injudicious practitioners of the prior and present ages, and have led them to repudiate its use from the round of their remedies. Timid and irresolute practitioners have observed the ill success of such injurious bleedings ; have conceived thoughts of its danger in all periods and cases of the disease, and have repugned the practice of venesection in the hands of other physicians, with such vehemence of disapprobation and rejection, that many in posterior ages have been terrified

to let blood in febrile diseases. Their arguments against its use are all built on visionary imaginations and false suppositions; viz. that bleeding produces an exterminating debility or weakness, especially in the persons of the inhabitants of hot countries; that it induces dropsies of the head, chest, lungs, bowels and limbs; that it creates a habit for bleeding; that the necessity of it is done away by the imagined sovereign powers of other remedies, as mercurialization, purging, sweating, blistering, cold affusion and vomiting, which they have deemed adequate to reduce the most violent modifications of the disease. But these notions will soon appear, by trial of these remedies without venesection, to be mere delusions of their own understandings, because no one of these is sufficient in many cases, to subdue the local inflammation, as I have found by experience and observation; the debility induced by the disease is far greater than the effects of bleeding, which rather relieves the system from exhaustion, oppression, and extreme debility; and the idea of dropsies being induced by it is an empty thought and a mere supposition. [See the chapter on the practice of venesection in our history of medicine.] In a word, venesection is one of the great means which nature has put into our hands and power, for the immediate relief and saving of our fellow-creatures labouring under vehement fevers and inflammations; for bleeding is quick and powerful in its operation and effects to reduce the most violent cases of them, in the shortest space of time, with the greatest certainty of success, with the utmost ease to the patient and physician, and with the maturest promptness of all the remedies we can boast of in the cure of these simple and compound inflammations. Besides all these advantages attending this operation, it has another unequivocal and lasting superiority over all other means, in being adequate to prevent the dregs or deadly consequences of inflammatory diseases, such as

measles, small pox, scarlet fever, whooping cough, agues, plague, yellow fever, &c. which in former ages, and even in the present times, leave the constitutions of persons broken, infirm, consumptive, dropsical and even consumed with an incessant hectic fever, during the remainder of their shortened days.

Venesection ought always to be employed on the first day of the disease, and in the hot period of the paroxysm, when the compound inflammation assumes the forms of a remittent or intermittent bilious fever, and in continued fevers, on the first accession of the symptoms of violent pains, heat, excitement, &c. which characterize the presence of internal inflammation. Venesection is always sanative in its effects in the first day of the invasion, and nothing can forbid its use in full habits, where vehement excitement exists to induce congestions in the vital organs. In violent cases of yellow fever we are often placed under the absolute necessity of repeating this operation three, four, six or seven times in the first forty-eight hours, before we can effect a complete reduction of the local affection ; because the patient will not bear the loss of three, four, five, six, seven, eight or ten pounds of blood at one or two bleedings, and we must repeat the mission as long as the violent fever continues, or as often as it returns in vehement paroxysms, even until the whole local inflammation is proximately or ultimately overcome by the evacuation. Bleed in all cases of violent fever, and repeat the detraction as the patient will bear it, till the disease is subdued, is a general rule ; but how many pounds of blood must be taken from every individual is left to the judgment and understanding, resolution and execution of the practitioner. I generally let two or three pounds of blood in urgent cases, on the first visit, administer powerful doses of purging mercury, put the patient in a warm bath till fainting approaches, exhibit strong clysters of

salt and water, enjoin quietness in the apartment, order plenty of cool drinks of the supertartrate of potass, or lemonade, or barley water acidulated with sulphuric acid, &c. On the second visit I carefully ascertain the effects or non-effects of the remedies employed, and repeat or omit them according to these circumstances, &c. On the third visit I again inquire into the effects of the remedies, the state of the functions, the relative degree of excitement, and thence determine the propriety and necessity of a repetition or addition of the remedies. On the fourth visit I still watch the disease and the operations of the remedies employed to reduce it, repeating or adding all things or remedies necessary for the total removal of the affection, and for the comfort of the sick. Thus I visit my patients four or five times in the day, during the acute period of the distemper, and exert every nerve to conquer this formidable enemy of human life, and to restore the sick to the enjoyment of perfect health and sanity of body and mind, in the first two days of its apparent existence, in the animal human constitution. The quantity of blood I take away varies according to the violence of the local affection, the temperament, the strength and habits of the patient, according to the structures, functions, situations and importance, of the affected organs, and according to the effects of former bleedings and other depleting remedies, which I might have previously employed to effect its annihilation. In cases of inflammation of the brain I have taken five and six pounds of blood from aged men, before I could resolve the local affection, even a third or a fourth of all the blood I conceived them to have in their bodies. In cases of inflammation of the stomach, intestines, caul, and the substance of the brain, I never allow myself to be influenced by the slowness, smallness, weakness, frequency and contractedness of the pulse: I open a vein, draw a pound of blood, close the aperture on

the event of fainting, and open it again in half an hour when the fainting goes off, and let another pound, and if the pulse rises in strength and fulness towards its natural standard, I repeat the operation, till the pain, great heat, violent action of the arteries, and other vehement symptoms are reduced and removed by it and other remedies used during the employment of the repeated bleedings. So I do not find any difficulty in wholly resolving the local inflammation in any violent case of fever that may come under my care, in the course of the first three days of the existence of the distemper, by copious detraction of blood, and other remedies mentioned in their proper place and order. I do not hesitate to draw off one fourth or even one third of the whole quantity of blood in a patient, to save his life, if it should be required to effect a favourable resolution of the local affection. Ten pounds of blood could be safely and successfully taken from a strong robust man, who has thirty; five might be drawn from the veins of a thin person, whose system contains fifteen pounds of good blood, in case of violent fever, at repeated bleedings, in the course of the first two days of the acute period of the disorder. Should 50, 70, 60 or 100 ounces of blood drawn not reduce the general excitement and local affection, we must continue the operation even till 120, 140, 160, 180 or 200 ounces are evacuated, in order to resolve it, in every dangerous modification of malignant fever. We have already shown, in a preceding part of this work, the use and extent of venesection among the ancients and moderns; we have adduced the authorities of great physicians, not to sanction our practice of it, but to manifest the imperfection of medicine without the knowledge of the nature of fever, and to exhibit the efficacy of copious bleeding in fevers, even under a blind mechanical practice; we have mentioned that Hippocrates bled in ardent fever, Galen in the plague of Egypt, Aretæus

in bilious fever, the Arabians in small pox ; the Egyptians in all febrile diseases, Botallus to the amount of three, four or five pounds in a day in malignant fevers, Sydenham in the plague, small pox, typhus fever, and all other febrile diseases ; Hillary and Moseley in the yellow fever of Jamaica and Barbadoes, and Rush in the yellow bilious remittent fever of America, to the great extent of many pounds with unparalleled success. [See chapter on Venesection.] In order to prevent any mistakes in the time and use of venesection, we shall proffer the following cautions necessary to be observed in the practice of the young physician. Bleeding is never to be employed to any extent in the chronic period of fevers, neither should blood be drawn in the third, fifth, seventh, or ninth day of an ardent fever, when the local inflammation has already degenerated or devolved into suppuration, effusion, ulceration, adhesion, gangrene or sphacelus of the affected viscera of the head, chest and belly. For blood-letting on such events would be attended with the immediate or consequent death of the patient. In cases of long-protracted excitement, depending on slow inflammation of some of the internal parts, as chronic, hepatic and cerebral inflammation, which gradually and insidiously approaches and increases to a great degree of severity, mission of blood might do good ; but the practitioner must determine the extent of the evacuation by the fulness, strength, hardness and quickness of the pulse, and the state of the constitution. Bleeding should never be practised in weak, meagre, spare and exhausted persons, even in cases of bilious fever, until purging and sweating had been tried in order to produce a reduction of the local mischief. Venesection alone must not be trusted to in curing every case of fever ; other remedies also ought to be administered, at the same time, to co-operate with it in the total and final removal of the distemper ; because there may be some other com-

plaint existing in the body, such as obstruction of the bowels, that requires the vigorous use of purges or cold affusion to effect the remaining part of the cure, even after blood-letting had subdued the local inflammation of the organs. Cases of this nature have often happened to me in the course of practice, and we ought always to be apprised of such circumstances occurring in fever, previous to our launching into the exercise of our profession. If worms should be the cause of the pain and swelling of the bowels, bleeding will produce no good in relieving that pain; purging alone is adequate to remove it. Bleeding alone should not be relied on for the whole cure of any violent fever, to the utter neglect of all the other remedies, otherwise we shall often find ourselves egregiously disappointed in our expectations of success: bleeding must be accompanied with purging, sweating, cold affusion, &c. to ensure a speedy recovery. Bleeding is unquestionably a great and powerful remedy in all fevers and inflammations, yet we must not place our confidence wholly in its sanative virtues, as Cullen has trusted to the effects of antimonials, Hamilton to the great powers of purgative medicines, Chisholm and Rush to the mighty efficacy of mercury, Currie to the use of cold affusion, Welsh to the use of the lancet, Brown to the virtues of stimulants and sedatives, &c. to the exclusion of other effectual remedies, which are great auxiliaries to the virtues of blood-letting, in all violent cases of fever; no, we are to unite the powers of all the remedies of bleeding, purging, sweating, blistering, cold affusion, mercury, clysters, &c. carried to their utmost extent, and employed with the greatest vigour, in the first day of the disease, so that we may infallibly resolve the local inflammation of the vital organs of the body. If any practitioner trusts to "catmint tea and castor oil," cold affusion, or mercurialization, antiseptics or alexipharmics, a single bleeding and blistering, he will inevitably loose his

patients through ignorance, error or irresolution, which are nowise pardonable in a physician, who enters into a solemn contract with all his patients, to cure all their remediable diseases, according to the most improved practice of the greatest adepts of the science and art of medicine of the present day ; not according to his abilities or skill, for he may be deficient of both, and may tamper with the precious lives of his fellow-creatures, in all the self-confidence and ostentation of a mountebank, and the avaricious eagerness of a degraded miser. The blood may conveniently be drawn from the cephalic and basilic veins of the arm, the jugular veins of the neck, the arteries of the temples, or the saphena of the ankle. But we should always choose the median cephalic vein in the arm, that we may completely avoid all danger of cutting into the hæmoral artery, which lies immediately under the median basilic vein of the arm ; in other places mentioned as convenient for the detraction of blood, as the temples, neck and ankles, there is no danger of wounding any important vessel,

EVACUATION OF THE INTESTINES.

Medicines which increase the natural motion of the intestines, and accelerate the descent of the excrements, are denominated purgative or cathartic evacuants of the alimentary canal. Copious and rapid evacuations of the bowels, are commonly produced by cathartic medicines ; but this evacuation may be induced to a great extent without the internal administration of these medicines, by means of external applications of cold, especially cold water applied to the lower extremities and belly, (of which we shall afterwards speak,) cold in any form to the sweating body, and hellebore to open wounds or sores. The purgative medi-

cines of the greatest powers and virtues to effect the important operation of purgation in yellow fever, will more particularly occupy our attention on this head of alvine evacuation; because the obstructions of the intestines, in cases of this disease, would often defeat all our efforts to restore our patients, if they should remain in a state of obstinate constipation. The necessity of alvine purgation will more conspicuously appear, in considering the morbid qualities of the excrements retained in the bowels, the consequent effects of such retentions, the torpid state of the intestines themselves, the defects of bile and pancreatic juice, and the wonderful powers of such evacuations on the universal system, which are commonly illustrated in books on the institutes of medicine. And having all these things well digested in our matured understandings, let us proceed to choose those medicines, which, according to our foreknowledge of their virtues, will always be found most effectual to produce the desired effects of full evacuations, and to propose the employment of other means, as clysters, cold affusion, bleeding, &c. that may succeed, in obstinate cases, where purgative medicines have failed to accomplish these ends. The submuriate of mercury or calomel is of all other cathartic medicines one of the most powerful and efficacious, in evacuating the bowels in all cases of yellow, or any other fever. It purges fully and effectually all persons of a delicate constitution of the intestines, and diffuses its benignest influence over the whole frame. It gradually operates on the stomach and intestines, in relaxing the one and evacuating the other; in exciting the languid lacteals and producing copious perspiration, which are the most desirable effects of any cathartic medicines, that can be exhibited in this burning fever. This medicine, too, is the most eligible on account of its weight and small bulk, especially in the form of pills; for it will be often retained in the stomach, and

will descend into the bowels in cases of the greatest irritability of the stomach or of the most distressing vomiting, when no other purgative medicine will remain an hour on the stomach to produce the operation of purging.

If there should be any natural repugnance of the stomach to the presence of the submuriate of mercury, known by the sickness at stomach and vomiting, we must inquire what kind of purgative medicine agrees best with the peculiarity of the constitution of our patient, and administer that which remains on the stomach with the least inconvenience, and is attended with the most effectual cathartic operation. Gamboge, Scammony, Aloes, Epsom Salts, Castor Oil, Jalap, Colocynth, Senna, Senega or Elaterium, may be employed to evacuate the bilious and putrid contents of the torpid intestines in cases of fever; but the practitioner who is well versed in the virtues of purgative medicines and their different effects in different constitutions, viz. in the sanguineous, choleric, phlegmatic and melancholic temperaments, and the various habits of persons, must exercise his matured judgment in the choice and exhibition of these powerful medicines, in all the various kinds and gradations of the human constitution; for instance, the submuriate of mercury will always agree well with a person of a strumous habit of body, aloes and jalap will operate mildly in a person of a phlegmatic temperament, whereas any of these medicines would gripe, rack and torture persons of a hot bilious temperament: castor oil will answer every purpose in one person, when it will not remain on the stomach of another. Such are the peculiarities of constitutions, such are the differences of habits, and such are the antipathies of patients, that we must often inspire them with confidence in the virtues of the medicines employed, choose those that are most suitable to every individual, and administer the most powerful of them in that form which is easiest taken,

and will remain in the stomach a sufficient time to produce the desired effects of purging.

It is not the cathartic virtues of medicines alone that must be considered by the judicious practitioner; it is the effectual evacuation of the bowels, produced by any medicines or means, that he must attend to in all cases of yellow fever, so that all offensive excrements and bilious matters be completely discharged, in the shortest space of time, with the least distress to his patients. Pills composed of calomel and aloes are generally sufficient to purge away the bile and slime, which lurk in the canal of the intestines, in the effectual evacuation of all their contents, and greatly diminish the ardent fever. A pill constituted of ten grains of calomel, should be given to a strong robust person, and repeated every two or three hours, till copious evacuations are effected, or until all hopes of success are lost by the incessant vomiting, when we must have recourse to purging clysters or cold affusion, as the dernier resorts. I would never have any objections to allow the patient to have his own choice of a medicine, provided it was sufficiently powerful to produce the effects of ample purging, to emulge the excretory vessels and glands of the intestinal canal of all the materials that ought to be dejected from the system, and to relax the exhalents of the skin, whereby all the febrile symptoms would be greatly diminished, with the removal of the irritation produced by the accumulation and presence of putrid and bilious excrements. The great object to be obtained, in the fever, being to obtain complete regular evacuations of the feculent offensive matter collected in the tubular cavity of the intestines, we have only to choose and employ medicines of those virtues and powers, which will always be efficacious to effect that proposed end. I have administered fifty grains of calomel, in five pills, one every two hours, before a solution of the bowels was obtained, in

the first day of the distemper, and have often seen full salivation produced, without the smallest evacuation of them being induced by it, or the least mitigation of the febrile evils procured by the mercury, which, in all cases of obstinate obstructions of the abdominal viscera, present in yellow fever, lead us to decide against the practice of mercurialization, in all forms of this disease. Indeed I do not use the submuriate of mercury with any view to salivate my patients in the acute periods of fever, I only administer it as the most effectual purgative medicine, that can be employed in all general and partial inflammations. It is this complete operation of purgation, which I always endeavour to produce, in every case of fever; for the salutary effects of cathartic medicines are so very great in the human body, that no other kind of medicines can be found to equal them in virtue or efficacy; and the loaded state of the bowels seems so much to require their operation, that the subjects of fever could not survive the obstruction of such important organs without their exhibition. They quickly and powerfully empty the stomach and intestines of a great load of acrid matters, as putrid and acid aliments, or hard excrements, or extraneous bodies, or concretions, or worms, or morbid liquors and humours, or poisonous substances, &c. which irritate and injure them, to the general detriment of the constitution. They liberate the obstructed vessels of these viscera, and promote the free circulation of the blood through them; they excite the action of the absorbents and draw away all humours from the head and other parts of the body, &c. and may be esteemed the most efficacious of all medicines employed in the practice of medicine.

Hippocrates always administered purgative medicines in cases of malignant and putrid fevers, in the acute period of their existence. Sydenham and Hamilton were two of the greatest advocates among the moderns for the practice of

exhibiting cathartics in all kinds of fevers. Sydenham and Hamilton indeed preferred them to all other medicines in all fevers and inflammations, whether putrid, small-pox, measles, plague, typhus or ague, or yellow, bilious and malignant fevers, in conformity to the practice of the ancients, who prescribed purges in such distempers. Sir John Pringle, Drs. Clark, Cleghorn, Balfour, Hillary, Mosely, Lieutaud, Desportes, Friend, Radcliff, Hoffman, Boerhaave, Gregory, and almost all other more recent practitioners, employed or now employ purgative medicines, in the cure of all febrile diseases. Since the days of Bo-tallus, Sydenham, Hamilton, &c., the practice in fevers has been greatly improved without the knowledge of their nature; but no new system of medicine, excepting the lame compilation of Thomas, has ever appeared to exhibit the best methods of curing them, by the remedies, which we intend to propose in these pages. The moderns seem to have followed the ancients in the use of cathartic medicines, both in principle and practice, till the observations of Hamilton appeared to illumine the darkness of the subject of purgation, and have totally neglected the recommendations of Sydenham, Friend, and many others, who employed them with the greatest success, in all acute distempers. To conclude we shall only observe, that all the purgatives of superior efficacy and power must be given to that extent, and with that diligence, that will always be attended or followed by copious evacuations of the intestines, although it should require 100 or 200 grains of calomel, in the first two days of the disease; that we must not wait too long for the operation of this or any other cathartic medicine; as soon as we perceive that vomiting or obstinate obstruction of the intestines will defeat all our further attempts with the use of purgatives, we must flee to another remedy, which will be certain in its effects, and

beneficial in its consequences. We must have all the great virtues of cathartic remedies always in view, and must exert every nerve to make them produce the salutary effects of purging. I have often been compelled to watch the favourable moment of the intermission of vomiting, in order to administer twenty or thirty grains of calomel, when it might have an opportunity of remaining in the stomach during that interval and might descend into the belly and produce the salutary effects of purging. This circumstance is worthy of the attention of every medical practitioner, who never allows himself to be baffled in his attempts to cause medicines to operate on his patients. It is also deemed necessary to observe the occurrence of another circumstance of no less importance, to direct our practice in the administration of purgative medicines, that is the excessive operation of these remedies, which being severe and painful, or exceedingly copious and rapid, require the composing power of an opiate to quiet the internal commotions of the bowels, in all cases of the disease, where either the medicine or a local affection has produced a cruel dysentery. A common looseness of the bowels occurring spontaneously ought not to be stopped in any manner, unless it should continue for many days, and exhaust the natural moisture of the body, or, unless the matter evacuated should be putrid and noxious in its nature, when we might then interfere with art to produce a chymical change of the excrements, and render the evacuations more slow and regular, at the cessation of the fever. In all cases of obstinate costiveness, where purgative medicines seem to be too long in operating, on account of the hardened excrements or inflammation of the intestines themselves, or a torpor and palsy of their moving fibres, we ought to administer powerful clysters composed of common salt, water and oil, jalap and salt water, &c. which have, under my exhibition, always hastened

the operation of the purgative medicines taken into the stomach, and have often loosened the whole bowels to the great relief of my patients, in cases where total obstruction of the intestines did not exist to defeat the powers of all the evacuating remedies, except cold affusion, which I have invariably found to be adequate to overcome the most inveterate obstruction. A clyster of tobacco decoction has often succeeded in the hands of the cautious and judicious practitioners, and I have witnessed the good effects of this powerful medicine in cases of obstruction of the bowels, and of ruptures, &c. but while cold affusion continues to be an infallible remedy for dissolving these obstructions, without being attended with the least danger, I never would use the dangerous decoction of tobacco. If any should administer this tobacco clyster, let them take care not to use more than a drachm of the dried leaves of this plant to a quart of water, and not to give more than a pint, or half of that quart for one injection. Hence let every practitioner choose the best purgative medicines, and accommodate these to every given constitution of his patients, let him study the time and extent of their administration, and let him employ them in conjunction with all the other remedies and means used to resolve the local inflammation of the vital organs.

THE OPERATION OF PERSPIRATION.

Perspiration is certainly one of the most powerful means for reducing local inflammations of the internal viscera, exactly answering to the principle of the great maxim of Hippocrates, Sanctorius, Sennertus, Reverius, &c. *Contraria curantur contrariis*, or contraries are cured by the contraries, which prescribed sweating for obstructed perspi-

ration, and inflammation in consequence of that obstruction. The operation of perspiration is very great in all cases of fevers or compound inflammations, for it relaxes the fibres of the inflamed organs, renders them soft and natural, reduces their preternatural distension, mitigates or removes the pains felt in them, diminishes general fever, and often totally resolves the local affection itself, when our artificial elicitation of it is attended with long and copious sweating, which is as powerful to resolve inflammations as the mission of two or three pounds of blood, by lowering the increased action of the heart and arteries in proportion as it reduces the local inflammation of the internal viscera or entrails. Nothing adds more to the intensity of animal heat than dryness of the skin, and nothing abstracts it more effectually than copious sweating; in fact, free and equable perspiration has in all ages been observed to terminate every kind of malignant and pestilential fever, and these spontaneous sweats occurring in sick persons, and having the beneficial effects of removing their distempers, have led men, from the beginning, to attempt the production of artificial perspiration. In after ages many great physicians have trusted, and many do trust, to perspiration alone for their success in the treatment of ardent fevers; but the means which they have employed to effect the operation of sweating were never sufficient to answer these ends. They have employed antimonials, water of the acetite of ammonia, ipecacuanha and opium, hot diluent drinks, a load of covering on the body, guaiacum, sarsaparilla, senega, serpentaria, sassafras teas, camphire, mercury, &c., which are medicines that I seldom or never administer to elicit copious salutary sweat, because I have found them insufficient to accomplish the desired end of sweating. I bleed and purge to reduce the local affection and copious perspiration spontaneously ensues. If the skin still continues drier and hotter than natural, I im-

mediately give to my patient a large dose of the submuriate of mercury, and put him into a warm bath of 95 or 100 degrees, and keep him there, till fainting comes on, at which critical moment copious sweats begin to flow and to reduce the excess of animal temperature, as well as to moderate vehement excitement, and to procure refreshing sleep, with the general alleviation of all the other distressing symptoms of the disorder. Mercurial purges and warm baths, repeated according to circumstances, after copious bleeding, never fail to elicit profuse sweat, in all cases of the disease and in all constitutions of our patients. It appears unnecessary to say anything more on this part of our subject, as every man of common intellect will clearly see the great utility of sweating, in all cases of yellow fever, and will always be disposed to employ the easiest means for producing this evacuation, without that dangerous method of forcing sweat commonly used by the ignorant pretenders, or quackish curers of rheumatism, that infest the country in the present day.

THE OPERATION OF VESICATORIES

Blistering has been long employed as an useful remedy in cases of fever and inflammation of the internal vitals, by the greatest physicians of former times, to draw out humours, to change the morbid state of the parts, to avert their inflammatory disposition, to alter the course and distribution of the blood, to produce a revulsion of the diseased fluids, or a derivation of them from the affected to the external parts of the body, to moderate vehement fever, and to excite a counter irritation, but these good effects have scarcely been observed to follow the application of epispastic remedies in any of my patients, and I am inclined to

think, that the introduction of these remedies into medical practice, was sanctioned by data similar to those which gave rise to the adoption of the practice of mercurialization, in cases of yellow fever. Drs. Chisholm, Clark, Rush, Gilchrist, Wade, Stewart, and others observed, that a resolution of the disease happened immediately on the event of salivation, and that death took place in defiance of all other remedies, when salivation could not be effected, in all cases of the disease, and they very naturally concluded, that mercury was an infallible remedy, where salivation could be speedily produced ; but this amounted to nothing in the treatment of yellow fever ; for one half of our patients, labouring under this malady, would inevitably perish, previous to the accomplishment of this end, and, in many cases of obstructions of the intestines, salivation would quickly follow the administration of mercury, while, nevertheless, the patients would die of the disease ; yet mercury is a good medicine to produce the effects that we have, in the latter part of the treatment of fever, ascribed to it, but has no superiority over other remedies ; so the good effects of blisters have been overrated by practitioners, who had observed the favourable terminations of the disease immediately after the application of the blisters, whereas the other remedies of sweating, purging, vomiting, bleeding, or even time and nature, might have cured the distemper. I believe, however, that blisters do much good in all cases of erysipelas, contusions, diseases of the joints, disorders of the skin, topical inflammations of a chronic nature, affections of the bowels, head and stomach, where, in such slow affections, repeated blistering may divert the determination of humours, and evacuate part of them through the cuticular exhalents : but I never can trust to them in the slightest cases of acute inflammation, neither do I prescribe blisters to the chest, throat, belly, &c., for inflammations of the internal

viscera of these cavities, unless the clamours of a prejudiced people, strengthened by the use and sanction of physicians, should demand permission to place them on these parts. For inflammation of the brain, however, I commonly shave the whole coronal aspect of the head, and apply a blister like a cap over it, while I persevere in purging, bleeding, sweating, and starving my patients. Blisters, in all cases of rheumatism or gout, are unquestionably beneficial, yet I conceive the application of warm bath and mercurial ointment to the affected limbs will always be found more efficacious and successful in the cure of that malady, and I have always laid aside the less to employ the more powerful remedies, in all cases of acute distempers. Why should I apply blisters while bleeding, purging, and warm bathing are sufficient to reduce every given case of fever, in the shortest space of time? I have tried the effects of the remedies, which have been recommended and employed by practitioners of prior ages; I have found them deficient in power and efficacy; I have adopted all the good and have rejected all the useless of them; I have invented, discovered and used new remedies to render my method of cure complete and successful, in all cases of remediable diseases and in the remediable stages of diseases, remedies, which, to my knowledge, had never been thought of by any former practitioner. Dry calomel applied to excoriations of the ears of infants, to ulcerations of the legs, to impetigenous eruptions of the skin, &c. is an example of a new remedy, which proves more effectual, than all the poultices and salves in the world, recommended by physicians of antiquity.

THE OPERATION OF COLD AFFUSION.

The affusion of cold water applied to the naked body in cases of fever, where obstructions of the intestines form a

deadly feature of the disease, is a saving remedy, in a time of imminent danger of dissolution. I shall not here repeat what I shall have an occasion to say on the subject of cold affusion as an infallible remedy in all cases of simple obstructions of the intestines; I shall only observe that cold affusion, or cold water dashed on the lower extremities and belly with great force, will always succeed in producing copious evacuations of the bowels, when no other remedy can effect that operation; and that, in consequence of this certain fact and belief, we ought always to use cold affusion, in all cases of obstinate constipation or obstruction of the alimentary canal, accompanied with the retention of the excrements, in all modifications of yellow fever where such a symptom exists. Cold affusion applied to the lower extremities and belly immediately evacuates the intestines, which had been previously torpid and had lost all their power of expelling the excrements from their tubular cavity, by the hardness and toughness of the feces themselves and diseased condition of their coats, whereby the nervous influence is suspended to paralyze their muscular fibres, or the whole contexture distended beyond the capacity of contraction or motion. Cold affusion doubtless braces the weakened fibres and enables them to expel their contents, as they do in a natural state of health, and relieves the patient from the most excruciating pangs of colic, incessant vomiting, anguish, &c. which happen to exist in many cases of yellow bilious malignant fever, as well as in the worst forms of simple colics or obstructions of the intestines.

Dr. Robert Jackson was the first practitioner that introduced the practice of affusing cold water over the whole bodies of patients in yellow fever. And this remedy having been found more efficacious than any other means which were employed by practitioners after its introduction, the practice was adopted in the treatment of all ardent fevers,

by the physicians of Europe and America. This application of cold water, however, to the naked bodies of persons in fever, was employed with the intention and design to lower the excessive heat of their bodies, to relieve their distressing feelings, to induce sleep, to recruit the animal powers of their patients, to excite new actions in the system to overcome the morbid ones, and to cut short the fever by producing a general reaction of the arterial powers. The principle of this practice was certainly very erroneous, and was, in their hands, a mere mechanical remedy, discovered by chance and used on a false principle, the administrators of it being ignorant of the nature of fevers. If ever this application effected a complete solution of fever, it must have been accomplished in the way that it is done by means of tepid affusion, as copious sweating, or a sudden, general and powerful revulsion of the humours from the internal diseased organs, which may thence effect a perfect resolution of the local inflammation, whose existence or presence was unknown to those who prescribed the remedy. I use cold affusion to remove the obstructions of the intestines, in all cases of obstinate constipation, not to solve the fever, a mere symptom of the local affection ; not to resolve the local inflammation, for it would not be sufficient to fulfil such an indication of cure ; not to reduce the febrile excitement nor to lessen the excess of animal temperature, for that would be losing precious time which never could be recalled, and neglecting the grand opportunity which never could return, in the cure of a malady rendered deadly by its duration and violence, and the ignorance and negligence of the practitioner. Copious bleeding, purging and sweating precludes the necessity of cold affusion to reduce the animal temperature, on the principle which Drs. Jackson, Currie, &c. practised it, and certainly, totally and finally superseded its application for any such purpose. Dr. Rush

declares the uselessness of it in cases of yellow fever, in speaking of the employment of the cold bath, and comes to the same conclusion that I have drawn respecting cold affusion, where no obstruction of the bowels seems to demand its application, namely, that it produces a trivial sweat, reduces the frequency and force of the pulse in a momentary degree, sometimes produces the baneful effects of chilliness, fainting and delirium, &c. and is attended with a great inconvenience and trouble in its application, in the manner they have recommended it, or is even impracticable in many cases of indigence and neglect of beneficence. Therefore let every practitioner employ it only in cases of total obstructions of the intestines, occurring in yellow fever, where purgative medicines and all other means have been administered in vain to exonerate the loaded bowels.

THE OBSERVANCE OF PROPER REGIMEN.

In all cases of violent fever the patient ought to be kept quiet, and have plenty of cold or cool drinks of barley-water and cream of tartar, or lemonade, or toast and water, ginger-beer, rice-water, or plain cold water, that the bile and putrid excrements may be washed away in the operation of purging produced by the medicines. No solid food should be allowed in the acute period of the distemper, nothing of a solid nature; but should any nourishment be required to support the body, gruel of oatmeal, panada of boiled bread and water, flummery of boiled flour or Indian arrow root, cooling nutrient drinks, as rice, barley, grit, or wheat waters or decoctions, seasoned with salt and nutmeg, may be freely given to the desiring patients. No fruits nor sweetmeats, nor preserves, nothing besides nutrient drinks are admissible in the acute period of fever; let the patients

wholly abstain from all kinds of food, till the chronic period of the disease approaches and the appetite begins to return. A hearty meal of solid victuals taken too soon, or too suddenly after long fasting in sickness, has often cut the thread of life and consigned the imprudent persons to rapid death, or has produced a relapse, whence they never recovered with all the remedies that could be employed by the attending physicians. So let every physician impress the necessity of abstinence and fasting in the acute period of every fever upon the minds of his patients, let them warn them of the danger of eating hearty immediately after long fasting; let them inculcate the propriety and necessity of using little and proper victuals, that all may know how to regulate their diet in sickness and in health, which will be acting the part of honest and faithful physicians to their fellow mortals under their responsible care, in the midst of a cruelly indifferent and avaricious host of lovers of lucre and gain, who care for the money, not for the lives of their patients, despise the dictates of human benevolence, tread upon the laws of human nature, in divesting themselves of all natural affections and neglecting the incumbent duties of their office. It seems almost unnecessary to urge the necessity of keeping the apartments of the sick clean, well ventilated, without currents of air or any hurtful degree of cold, free from the offensive fœtor of all excrements, and void of noise and light, and every thing else that would incommode or injure the patients. The linen or cotton shirts and covering ought also to be clean and dry, and perfumed with pleasant odours.

Having now mentioned the principal remedies included in the indication of cure suited to the acute period of the disease, I shall proceed to enumerate all those remedies which we have found to be sanative and restorative in the chronic period, in the fulfilment of the second indication of

eure, comprised in our general method of treatment of all simple and compound inflammations, to the utter rejection of all those which we have experienced to be useless, uncertain, too slow in their operations, or even pernicious in their effects, and have deemed it expedient to repudiate from the bosom of our practice, although they may have obtained the esteem and praise of many preceding ages, and have been adopted into the practice of the greatest physicians of the present day.

THE OPERATION OF EVACUANTS.

When the acute has terminated in the chronic period of fever, the great object of our practice is to fulfil the indication of cure, exactly adapted to the state of our patients in that advanced stage of the distemper. In this advanced period evacuants are often as necessary as in the beginning of the disease, in order to assist the operations of nature, and to promote the actions and motions and work of every function, especially to promote the natural evacuation of the excrements, to carry off noxious matter, to prevent the injurious accumulation of any materials that may weaken the powers of digestion, or retard the return of general health, or tend to produce a repetition or a relapse of the disease in any degree or shape. The motions of the intestines are sometimes so very slow in consequence of violent fevers, that the daily administration of some gentle and effectual purge is absolutely necessary to keep up the natural discharges of the bowels, and even to purge them more copiously than would be necessary in health, to drain off the dregs of the disease, whether these dregs of the distemper consist in a diminution of the energies of the excretories and secretories, exhalents and absorbents, intel-

lectual and animal functions of sensation and digestion, or in the obstructions of the vessels of the diseased organs, whereby their functions are almost or altogether lost in the organic disorder or affection. For instance, a chronic affection, remaining as the consequent dregs of acute inflammation of the liver, requires the use of mercurial purges to answer two great and important purposes; the one is to drain away superfluous humours, and the other is to resolve the hardened condition of that organ, which may remain after the inflammation. In this period of the disease, in every case of consequent local affection of the liver, which may be easily known by the soreness of that organ on pressure, the continued hectic fever, without the symptoms of suppuration or gangrene, and by the want of appetite or by the aguish fever, which is apt to return every day, week, month, half year, &c. according to the degree of the local mischief, continued purges of the submuriate of mercury, carried even to a slight salivation, is the most beneficial remedy that can be employed in such a morbid condition of the substance and functions of the liver. In all cases of chronic organic affection of the brain happening in consequence of acute inflammation or insolation, which are commonly attended with a sense of weight, numbness, obtuse pain of the head, somnolence or vigilance, frequent small pulse, moist warm skin, giddiness, dulness or loss of memory, debility, scantiness and redness of urine, depression of spirits, &c. more or less distressing in continuance and violence, nothing can so effectually and so completely eradicate these dregs as a gentle mercurialization with purging mercury, which draws off humours from the head, while it resolves the organic affection in the brain, especially when it is accompanied with the repeated application of blisters to the parts of the head nearest the affected portions of the brain. [See the operation of alterants.] In all cases of

chronic affections of the bowels, lungs, kidneys, sweetbread, proceeding from acute inflammation, which had terminated in a hardened condition or a thickened state of their different textures and substances, mercurial purges are very efficacious in eradicating the remains of such morbid affections, on the principle of solving and draining, which are of so much importance in the practice of medicine. Any other purgative medicines will produce the desired exinanition in some degree, and by the use of the blue mercurial pills may be made to answer the proposed ends of changing the diseased condition of the organs, and of evacuating excrementitious fluids and matter, but I have always preferred purging mercury to any other cathartic, and it is the most convenient, in all cases where a natural repugnance of the stomach creates a necessity for using some other cathartic medicines, when jalap, aloes, rhubarb, epsom salts, gamboge, scammony, colocynth, castor oil, senna, &c. may be employed in conjunction with the use of mercury, according to the degree and nature of the local affection, states and peculiarities of the constitutions of patients. For the mere operation of purgative medicines, without their alterant powers, is nearly the same by all medicines which either gently or severely purge the bowels, in relation to the class and order to which they belong, laxatives or purgatives, that all tend to exonerate or evacuate the intestines of their contents.

All persons, who are acquainted with the great and powerful effects of cathartic medicines, will clearly see their utility and efficacy in all chronic disorders; such as induration of the liver or other organs, confusion of the head, incrassation of membranes, obstruction of absorption, stagnation of fluids, constipation of the bowels, suppression of menstruation, convulsion and distention of the nerves and muscles, flatulence of the digestive canal, spasms of the

muscular fibres, indigestion, worms, palsies, dropsies, scræfula, gout, rheumatism, hysteric and hypochondriac affections, dizziness, apoplexies, melancholies, epilepsies, catarrhs, coughs, fluxes, colics, jaundice, ulcerations, headaches, consumptions, profusions of urine and of blood, piles, vomiting of blood, rickets, St. Anthony's fire, dentition, as well as all simple and compound inflammations, natural pox, measles, miliary, scarlet, puerperal, &c., fevers of the acute order and period, and the consequent chronic disorganizations of the viscera produced by these acute distempers; therefore we have no occasion to offer any further illustrations of this important subject, and shall only add, let every practitioner attend to the state of the bowels of his patients in curing them of any distemper, and preserve them naturally open by the use of the best purgative medicines. Diuretic medicines are also esteemed useful evacuants, in cases of chronic affections, and always tend to cool the body, by augmenting the secretion of urine, and carrying off much of the saline matters of the blood, through the urinary organs. The supertartrate, the carbonate, the acetite and nitrate, and the supersulphate of potass, the tartrate of potass and soda, the sulphate of magnesia, horseradish, foxglove, squills, garlick, cresses, broom, senega, juniper, ginger, &c. are classed among the diuretic remedies.

THE OPERATION OF ALTERANTS.

Alterants comprehend all those medicines, which produce salutary changes in the state and condition of organs, parts, surfaces or humours of the human body. Among these medicines we may comprise the carbonate of potass, which chymically change sour humours of the stomach and intestines into sweet and bland fluids; the sulphuric acid, which

arrests the putrescent fermentation of their contents ; the spumy flower of beer, which stops the progress of gangrene of the coats of the intestines and the cuticular surfaces of the body ; the muriate of ammonia, the sulphate and muriate of soda, the sulphate of magnesia, and the nitrate and supernitrate of potass, which attenuate the blood ; the carbonate of magnesia and of lime, which absorb or correct the acrid humours of the stomach ; the mercury, which augments the secretions and solves the gross humours of the body ; and the tonic, astringent, bitter and aromatic medicines, which strengthen, stimulate and brace the nerves, muscles, absorbents, and all the internal coats of the alimentary tube, being all examples of alterant medicines, in the largest sense of the term, that are commonly called tonics, bitters, astringents, corroborants, restoratives, stimulants, attenuants, or corrigents, according to their respective virtues or effects produced in the system. Tonics and cordials are alterants, which restore the natural energy of the weakened fibres of the stomach and intestines, and impart vital strength to the nerves of these parts. These produce an alteration of the condition of the debilitated parts ; but mercury alters the state of the secretions in the glandular organs, opens all the pores, permeates the universal frame, and attenuates the blood in the containing vessels. Every person, who possesses the knowledge of the virtues of these different kinds of medicines above mentioned, will always choose those which will be sufficient, in their powers and actions, to produce the salutary changes desired, in every given case of disease. The cinchona bark, columba, gentian, bistort and tormentill roots, the bark of the oak, pomegranate and cusparia, quassia wood, tincture of the muriate of iron, muriatic, sulphuric and nitric acids, cold water, chamomile flowers, and opium, conjoined with nutmeg, cloves, cassia, ginger, canella, mace, cinnamon, lavender, carda-

mam, pimento, peppermint, and assafoetida, are the most useful tonic stimulants, in all states of debility in consequence of fevers, to impart energy to the digestive organs. I reject the use of spirituous and vinous liquors, which have been highly recommended by the physicians of this continent; I forbid their use in all cases of disease that comes under my care; I persuade all men, in sickness and in health, to abandon the habitual use of these noxious, poisonous and pernicious drinks, in winter and summer, pure or in water, and I counsel them to use pure water, small beer, ginger and lemon beverages, lest the habit should grow upon them, and lead them as victims of temulence to the altar of bacchanal mactation and immolation of themselves. Æther, musk, camphire, valerian, ammonia, arsenic, wine, castor, antimony, ipecacuanha, sulphate of zinc, nitrate of potass, turpentine, acetite of lead, cupping, mustard, blisters, lime-water, and many other medicines of the orders of antispasmodics, menagogues, stimulants, emetics, rubifacients, antiseptics, narcotics, refrigerants and expectorants, which I entirely neglect, have received the great encomiums of celebrated physicians of different ages and nations, on the vague suppositions of these remedies arresting the progress or mitigating the symptoms of the distemper. Upon the whole, the practitioner may administer the tonics, cordials and restoratives, which agree best with the stomachs and palates of his patients, and may choose the most powerful of those which his patients can take, in such quantities as they can bear, to actuate the languid powers of the system.

THE OPERATION OF EFFECTIVE NUTRIENTS.

Nutrients are the natural supports of all living animals, and are the most powerful restoratives in nature to impart

vigour, tone and energy to the weakened and exhausted system, emerging from the shackles of violent distempers. Nutrients render acrimonious humours bland, enrich the blood, benignly fill the emptied veins, revive the languid powers and nourish the whole body, in that manner and degree, which the world of men, with all the materials of nature, could not accomplish without the use of them. Out of these natural supplies of Providence, we have only to choose those which are best adapted to our several cases of sickness and disease, according to our various peculiarities of constitution and previous habits, which seem to direct our choice of them. In a state of convalescence, or in the chronic period of any acute disease, preparations of Indian arrow root, flour, oatmeal, rice, millet, cumfrey, tragacanth, barley, meat, milk, eggs, &c. in the forms of ptisan, gruel, flummery, soup, custard, simple decoctions and sorbile potions, seasoned and qualified with salt, nutmeg, ginger, cassia, cinnamon, cloves, &c. to render them cordial and grateful to convalescent valetudinarians. All these should be prepared in simple water, not rich milk, and very seldom used with any wine or any other spirit of a mechanical stimulus; bread, rice, flour, oatmeal, &c. boiled in water to the consistence of sorbile flummery and ate with a little milk, answers most persons very well in the first stage of convalescence; and when the appetite returns with its wonted powers, any common and good nourishment or full diet may be allowed. Esculent roots, herbs, pulse, ripe fruits, the flesh of well fed young oxen, sheep, fowls, &c. tea, coffee, cocoa, sago, gum-arabic, porter, beer, the white fleshed fishes, as the cod, turbot, oysters, plaice, &c. may be allowed to all convalescents, who desire and can easily digest them. Pure cold water is the best of all drinks in sickness and in health.

RECREATION OF EXERCISE AND SOLACE.

Moderate exercise in the pure air is one of the most powerful restoratives in nature ; for the pure cool air refreshes and braces the body, confirms the strength of mind, promotes digestion, renovates the spirits, and recreates the universal system, in a manner, that nothing in nature, except a cold bath could possibly do, under any other circumstances ; and without exercise the circulation of the blood cannot properly be carried on, nor the various secretions and excretions duly performed, the fluids cannot be bland, nor the solids rendered firm and strong ; the bowels become languid and the appetite departs, headachs, languor, weakness and emaciation ensue, in consequence of a sedentary life, and in a state of convalescence from disease. Without air and exercise, says a great naturalist, no man can possibly enjoy health of body and sanity of mind ; witness the glandular obstructions, the nervous disorders, the general emaciation of studious and sedentary persons, who are confined from the pure air and exercise, in the corrupt warm air of their apartments ; compare the strong robust persons of the laborious rustics with them, then estimate the benefits of pure air, moderate exercise, wholesome food, good water, and calculate the great injury of the want of these great preservatives of general health.

Mental solace, in the hours of sickness and dejection, is certainly one of the most powerful means for removing lowness of spirits, despondency, apprehensions of danger, impatience under affliction, melancholy, and imaginary sensations of distress. To associate with cheerful company, to engage the mind and body in agreeable pursuits, and to occupy the attention in healthful recreations, induce the convalescents to forget their feelings and their diseases, and

tend to restore their general health. To inspire the despondent sick with hopes of recovery, buoys up their spirits and their minds in an ocean of afflictions and distress. Nothing is so powerful to kill as despondency and terror, and nothing is so effectual to continue existence as expectation of returning health, in the hours of the severest agonies of human nature. Every practitioner ought to attend to this part of his duty above all others ; for it is mental solace that procures their confidence in his prescriptions, it is this solace that insures the use of his medicines, it is this consolation that preserves their bodily powers during the operation of his remedies, and it is these hopes that bear up their minds and spirits under a load of corporeal afflictions. But let every physician cease to raise the hopes of recovery in the dying, or to dash the expectations of future health in those who may recover, lest he become the instrument of hastening the dissolution of the one, and producing the death of the other of his patients. I have restored many persons in dysentery and inflammations of the brain, in St. Vitus' dance, in dropsies, in colics, in fevers, in palsies, in violent headaches, &c. after they had been abandoned by their physicians ; and I have attended many sick persons to the hour of dissolution, whose hopes of recovery had been raised by the deception and preserved by the dissimulation of practitioners, till the signs of approaching death undeceived the dying subjects of disease, and expelled imposing hypocrites from their presence. I merely mention these circumstances to warn the practitioner of the danger of such unpardonable conduct, and to fortify the sick against the influence of such imposition ; I do not insinuate any thing, but the necessity of honesty, candour, veracity, faithfulness, sincerity, integrity, honour, knowledge, skill and discretion in physicians, in all their responsible conduct and behaviour among their depending patients, where the subject of their contract is

life, the object of their practice ought to be health, and the non-fulfilment of the stipulations in this contract issues in oblique murder and death !

PREVENTION OF THE PESTILENCE OF AMERICA.

Having, in the preceding chapters, treated of the cure of yellow fever, it may now be deemed necessary to speak of the means of preventing this formidable malady. In executing this part of our subject we have two important things to perform, in conformity to our principles and practice with regard to this disease, as they are founded on and deduced from the knowledge of the real nature of fever, which we have discovered in our investigations and inquiries into the identity of febrile and inflammatory distempers ; the one is to wean the minds of men from all dependence on those preventives which have been pointed out by all preceding writers, the other is to conciliate their confidence and dependence on the means which we shall rationally propose, as preventives of the disease ; the accomplishment of which only requires the evolution of those facts and truths, that will manifest the incongruity of the one, and the consistency of the other system of preventives. Dr. Rush, who has collected all the preventives of fever contained in the systems of all former writers on this subject, recommends mature flight, the use of salted meat and vegetables with pepper, the employment of laxatives, plentiful perspiration, blood-letting, warm bath, cold bath, unction of the body, issues and blisters, the use of onions, of garlick, and of mercury, wine and ardent spirits, tobacco, sweet oil, volatile alkali, cordial drinks, fumigations, large fires, washings, avoiding miasmata or effluvia of marshes and cities, correcting putrid exhalations by lime, personal and domestic

cleanliness, camphire suspended in a bag round the neck, and vinegar applied to the nose; free ventilation of the sick chambers, a removal of all excretions, and of fears, &c. under the supposition of the causes of the disease being marsh and human effluvia and putrid exhalations, and under the influence of the egregious error of its nature being general excitement of the sanguiferous system; which means of prevention would carry absurdity and contradiction in the very intentions of them, under the administration of that physician who now believes that its causes are heats and colds, and its nature inflammation; so we are under the necessity of rejecting all employment of, and dependence on, such preventives of yellow fever.

The true method of prevention, therefore, will be to avoid all the predisposing and exciting causes of the disease, as heats and colds, fatigue and intemperance, crude and bad aliments, violent passions of the mind and potations of ardent spirits, fasting and feasting, exposures to the solar rays and nupal rains, indolence and despondence, cold dampness of marshy grounds and the burning dryness of sandy soils, constipation of the bowels, plenitude of blood and robustness of constitution, hot foreign climates, improper dress and nocturnal watchings, &c. in the autumnal seasons of the year, which injure and affect the constitutions of men, in all hot regions of the earth; especially the bodies of those strangers who are not accustomed to high degrees of solar heat. If men will not observe temperance and moderation in eating, drinking and labouring; if they will not exercise good common sense and judgment in the choice of their foods, drinks and clothes, suitable to the climates in which they live; if they will not temper their excessive desires and appetites according to the dictates of reason and external objects, or the unerring suggestions of nature, let them abide the consequences; but let us compassionate human

nature in the hours of sickness and distress, and let us teach the imprudent wisdom in the day of affliction and visitation, when doctrines and examples will make lasting impressions on their penitent minds, leaving their terrestrial destinies to the decision of the God of nature.

THE DESCRIPTION AND CURATION
OF
THE GREAT PESTILENCE OF EUROPE, ASIA AND AFRICA ;
OR
THE SECOND MODIFICATION OF COMPOUND INFLAMMATION.

The pestilence of eastern climates, which has been commonly called malignant, putrid, pestilential, spotted, continued, low nervous, camp, jail, ship, inflammatory, petechial, typhus, &c. fever, or plague, prevails among those nations in all seasons of the year ; but especially in the spring, summer and autumn, or when the weather is cold, tempestuous, wet and variable, after heat and drought. It happens, however, in all regions of the earth, in the cold, moist and changeable seasons. It exists in India, America, China and Africa, in the cold seasons and winters, and pervades Europe at all times, becoming epidemic according to the constitution of the seasons, which produce all its varieties of complexion.

The nature of this fever was and is unknown to physicians. Some suppose it to consist in some morbid matter or contagion lurking in the blood ; others imagine it to depend on preternatural heat and motion of the blood and humours, induced by poison or plenitude ; all believe the causes of it to be human effluvia, putrid exhalations from

the ground, lakes, marshes, ships, camps, jails, &c. or some particular contagion floating in the air, which are introduced with the breath, food, and by the pores of the skin, and produce the disease under consideration. The numerous writers, who have exerted all their talents to expound the essential nature of this fever, in the last hundred years, have all failed in discovering its proximate cause or essence. [See our dissertation on the nature of fevers.] The only modern physician that has come nearest the knowledge of the nature of fever, is Dr. H. Clutterbuck, who asserted in one erroneous position, in his inquiries into the nature and seat of fever, "that the local and primary seat of idiopathic fever is in the brain, and it is nothing more nor less than a species of phrensy or topical inflammation of the brain." The error of this position consists in asserting, that the seat of the primary local affection is always in the brain in every given case; because the local inflammation, as I have abundantly proved in expounding the nature of yellow fever, does not always exist in the brain to produce one single fever in nature; but, that it consists of an inflammation of some of the other viscera or organs of the head, chest, belly, or of the joints, glands, absorbents, nerves, &c. I have often discovered, by dissections of the dead, that the primary local affection was in the lungs, bowels, &c. and not at all in the substance of the brain.

THE SYMPTOMS OF THE PESTILENCE OF EUROPE, &c.

This modification of compound inflammation, like all others, commonly begins with chills and shivering, succeeded by flushes of heat and constant excitement of the blood-vessels; the pulse becomes strong and full; the patient complains of pains in some particular parts or whole

body ; efflorescent pimples sometimes appear on the skin ; the urine is high coloured, scanty, and deposits a red sediment ; the countenance is flushed and the eyes are redly suffused ; the tongue becomes white and furred, the bowels are costive ; the respiration hurried and laborious ; an extreme anxiety and intolerance of light, noise, heat, &c. or furious madness exist, to constitute what physicians have, in former ages, denominated "*inflammatory fever*," in which the local affection is generally seated in the membranes of the brain, the lining of the chest, the midriff, the liver, the spleen, the sweetbread, the bladder, the kidneys, the heart, the joints, the absorbent vessels, the muscles, &c. whence an acute fever proceeds.

This disease, however, assumes another aspect, from the local affection being seated in different organs or parts, and constitutes the varieties of complexion observed in the different forms of the distemper. It frequently commences with chills alternating with flushes, general languor and lassitude, depression of spirits, loss of appetite, confusion of thought, giddiness, pains in the head, great prostration of strength, nausea and vomiting, short and anxious respiration, frequent, weak, small or intermittent pulse, moist, furred, or dry, brown, tremulous tongue, great thirst, pale and watery, or red and scanty urine, low muttering delirium, noise in the ears, &c. advancing to its highest degree of violence in the course of three, four, or five days, if not arrested in its progress by the effectual and timely application and exhibition of remedies. As the disease advances the patient becomes more insensible and stupid, the heat of the body rises to several degrees above the natural standard, the eyes become more suffusedly red, the countenance more flushed, the face swollen, the stools and urine involuntary ; and twitching of the tendons, coldness of the extremities, convulsions, restlessness, hemorrhages of blood, gangrenous

spots or blisters of the skin, cold sweats, &c. and dissolution supervene; or the distemper gradually subsides by copious sweats, critical looseness of the bowels, repeated missions of blood, in a general abatement of all the morbid symptoms. The local inflammation in this complexion is generally in the substance of the brain, lungs or bowels, and exhibits what has been called in all preceding ages, slow nervous or putrid fever, or typhus when it is attended with symptoms of diseased brain.

When this distemper exhibits the common symptoms of fever, without any disorder of the head, accompanied with pains in the chest or belly, we may safely conclude that the inflammation exists in the substance of the lungs, the caul, the intestines, the spleen, or some other part of minor sensibility, to constitute the continued, putrid, or remittent fever of authors, which is attended by a cough, constipation or looseness of the bowels, oppression in the chest, &c. as the essential signs of the inflammation in these parts of the body. In all cases of slight local affection in the less sensible and irritable parts or viscera of the body, as the substance of the brain, lungs, spleen, liver, intestines, tendons, and other parts, the fever peculiar to them is insidious, slow, variable, intermittent, dangerous or lingering, remittent, &c.

This disease varies in its appearance by the peculiarities of different climates, situations, seasons of the year, constitutions of the patients, and their exposures to the surrounding causes. In Egypt, in the autumnal season of the year, it assumes the appearance of plague, which is attended with carbuncles, buboes, gangrenous ulcers, tremour of the members, bleeding at the different pores of the body, extreme stupor of the brain, fainting, palpitation, delirium, and pains in the head. This kind of inflammation is the annual endemic distemper of Lower Egypt, along the banks of the Nile, and in various parts of the East, especially in

Congo, Barbary, Lower Ethiopia, Turkey in Asia and Europe, &c. where the influence of the same seasons and atmosphere extends, as on the low shores of the Bosphorus, Hellespont, Dead, Black, and Adriatic seas, Bassora, Archipelago, Mediterranean, &c. and on the banks of the Niger, Senegal, Gambia, Zaire, Euphrates, &c. and particularly rages in the cities of Grand Cairo, Ghiza, Boulac, Alexandria, Rosetta, Damietta, Constantinople, Marseilles, Athens, Venice, &c. It begins to rage in Lower Egypt on the decrease of the annual inundation of the extensive plains of the Nile, during the dry and cold season, from the middle of September to the beginning of April, inclusive.

On the banks of the Menan in Siam it assumes the complexion of the yellow fever; in the province of Bengal it wears the appearance of the intermittent fever of India within the Ganges. In the low lands of England, Holland, France, Italy, Spain, Portugal, and America, in the autumnal and vernal seasons of the year, and in all the hot countries of Asia, Africa, Europe, &c. it prevails as an ague, in damp situations, to the great molestation of their inhabitants. The ague fever differs from all others in the general revolution of its symptoms; it consists of repeated paroxysms, and each revolution or paroxysm is constituted of three parts or stages, the *cold*, *hot*, and *sweating* stages. The cold period is characterized by a languor, lassitude, listlessness, yawning and stretching, aversion to motion, paleness of the face and extremities, contraction of the features, constriction of the skin, chilliness and shivering, insensibility, diminished secretions and excretions, smallness, frequency and irregularity of the pulse, short and anxious respiration, rigors and sensation of coldness, which terminate in universal shaking of the body. This shaking having continued for some time, transient flushes, succeeded by a steady and burning heat of the whole body, rising far

above the natural standard, immediately follows. The skin then becomes red, tense, dry and swollen, is sore to the touch, the sensibility returns and rises to a preternatural acuteness, pains arise in the head and over the whole body, the pulse is quick, strong and hard, the tongue white, the thirst great, the urine high coloured, the respiration quick and deep, the head confused; sometimes bleeding at the nose, from the womb, bowels, lungs, ears, &c.; which symptoms continue for a short time and terminate in profuse general sweating. If the intermissions between the paroxysms are distinct, or if the intervals of fever are marked with remissions of it only, the one is called ague or intermittent, the other is denominated remittent fever; but as I could never find any person, in any fever whatever, entirely free from it during the imagined interval or time of the alleviation of the morbid evils, I think this distinction useless, and calculated to mislead all young practitioners; for a little hectic pulse, dejection and drowsiness, loss of appetite, dryness and hotness of the skin, &c. appear to exist during the period of the supposed intermission of fever. Besides all this, the cold, hot and sweating stages or paroxysms with intervals observe no regular time and order of beginning, progress or termination, but vary from the continued fever of Europe to the yellow fever of America, proceeding through infinite varieties and anomalies of types, forms, periods and terminations. It sometimes commences without a cold stage, and terminates without sweating; so that all attempts to define each modification of fever by distinct and separate phenomena, are vain and fruitless; it defies all distinction, and I am led to consider them all as one and the same disease in nature, which require the same method of cure. In short, after I discovered the real nature of fevers of all kinds and forms to be essentially and identically the same, I deemed it expedient to make the descrip-

tion and curation of one of its modifications as the key to open the way to the nature and cure of every other complexion of these distempers, which vary only in external appearance in the different regions, situations and climates of the earth. It is very common in agues to find dysentery, looseness, cholera, dropsy, jaundice, obstructions of the bowels, cough, difficulty of making water, pains in the head, spine, lungs, liver, spleen, kidneys, indurations of these viscera, rheumatism, cutaneous eruptions, indigestions, epilepsies, hysterics, hypochondriasis, convulsions, palsies, apoplexies, suppression of the menstrual flux, consumptions, stupor or delirium, involuntary twitchings, &c. in combination with the fever; but I consider all these morbid phenomena to be the mere symptoms of the local inflammations, which exist in the organs to produce the fever; and consequently cannot judge them to be real anomalies or varieties of the disease.

THE CAUSES OF THE PESTILENCE OF EUROPE, ASIA, &c.

After what we have said on the causes of the yellow fever, one of the modifications of compound inflammation, it seems quite unnecessary to speak of the causes of each assemblage of the morbid symptoms, as all have the same nature, the same causes, the same characters, and the same periods and terminations; observe the same courses, and require the same method of cure in every given case, form or type, in all countries of the earth. I therefore refer you to the explication of the causes of the pestilence of America, for information of the causes of every other form of fever in nature. But something to explain the differences of the complexions or assemblages of the morbid symptoms, or to illustrate the immediate causes of the differences of

these modifications in the various regions and climates of the earth, arising from the same causes, in their varied degrees of power and continuance, to constitute every anomaly of them, occurring among the distant inhabitants of the terrestrial globe, appears necessary to be said, in order to obviate all the objections of theorists, opposing the true doctrine of the nature of fevers by the reveries of their imaginations and the errors of their false conclusions, as well as to evince the identity of these distempers with inflammations.

The great causes of the differences of the modifications of fevers or compound inflammations, in the various climates and regions of the earth, are the differences in the powers and qualities of predisposing and efficient causes themselves, which produce inflammations of the internal and external organs or viscera of the head, chest, belly or joints, skin, cellular texture, membranes of the mouth, throat, &c., absorbents and nerves, and change the natural qualities of the humours of the body, &c. whence all acute diseases in nature proceed. The causes of fevers in America induce inflammations of the vital organs in all their degrees of violence and rapidity, owing to the dryness and hotness of the atmosphere in a sandy and low country, unrefreshed with the anniversary winds or cooling breezes, and the sudden and great changes of weather, alternating with coldness and dampness, drought and heat. The causes of the same distemper in Great Britain induce slow nervous or typhus forms of fever, owing to the very contrary variety of seasons, as coldness and dampness of the atmosphere in a temperate climate, and where the inflammations correspond with the gradual and moderate changes of weather, in the different seasons of the year. The causes of these diseases in Lower Egypt, being accompanied with hot burning winds from the torrid regions of

Africa and Arabia, noxious qualities in the atmosphere, arising from the exhalations of dead animal and vegetable substances and other materials, produce inflammations, attended with fatal symptoms of a general corruption or contamination of the blood and humours in the system, as we observe in plague, smallpox, measles, eliphantiasis, &c. where the blood and humours have obviously acquired qualities which they ought not to possess, and have lost properties which they ought to have in a state of good health and sanity, and which they even do not acquire in the morbid conditions of inflammation in other climates and places of the earth. As for the varieties of agues in all places of all climates, we shall only remark, that the form of this distemper commonly called ague or intermittent fever, depends upon the slighness of the degree of the internal inflammation, in organs less essential to life, in all hot countries, as slight affections of the liver, spleen, bowels, kidneys, stomach, caul, mesentery, sweetbread, substance of the lungs, covering of the heart, lungs, substances and membranes of the head, &c. which we have demonstrated by dissections of the bodies of those who have died of the disease. In many cases of ague and remittent fever, the pains in the inflamed organs excite no alarm, are often never observed to exist; and physicians, reasoning from theory and analogy, have been baffled to discover the nature and seat of the disease in the body; but according to our doctrine, that fever cannot exist in the body without the presence of some internal inflammation, we can never be at a loss to comprehend the nature of the distemper, and will always inquire into its seat in some of the organs above mentioned. At the same time we can cure the disease as easily and as quickly, by the administration of proper remedies, before we discover its real seat, as we can do after it, on the belief of its being an inflammatory affection of some of the

internal organs. If we find that pains exist in the situations of those parts, the seat of the affection is discovered, and we have only to direct all our remedies to the reduction of it, and so forth.

All the physicians of former ages believed, that a watery poor diet, great fatigue, long watching, grief, anxiety, suppression of usual evacuations, repulsion of eruptions, preceding diseases, &c. predisposed persons to fevers; and that marsh effluvia, impregnated with animal and vegetable matters in a state of putrefactive decomposition, produced the particular form of intermittent fever in persons under such predisposition; that contagion conveyed immediately from the bodies of men, or by means of the wind or clothes, or goods of merchants brought from some distant lands, generated putrid malignant, and pestilential fever; that putrid air of jails, ships, camps, and lowness of spirits, &c. generated typhus fever; that the anger of God, executed by means of the elements, corruption of the air, the influences of the celestial bodies, certain constitution of the seasons, the heat and noxious air, south winds, putrid exhalations, passions of the mind, &c. created the plague; that plenitude of blood and robustness of constitution predisposed persons to be suddenly seized on the alterations of temperature; that violent exercise, intemperance, &c. induced inflammatory fever; but I have long considered all these ascriptions of causes to be the greatest displays of ignorance that can be conceived, of the nature and causes of these maladies. I can conceive no other causes, than cold damp ground, air, rooms, wet clothes, nocturnal dews, north winds, &c. immediately after a hot burning sun and sultry weather, much fatigue and sweating, long watching, intemperance, depressing passions, famine, heat, &c. to produce the fever under consideration.

Famine, however, and fatigue, intemperance, depressing passions of the mind, long watching, excess in venery, unusual evacuations, a studious and sedentary life, heat of the climate, noxious vapours or exhalations, &c. may predispose persons to be easily affected by cold in any form, that obstructs perspiration and induces a stagnation of humours in the organs, joints, or cavities of the body ; but direct cold, applied to the opportuned bodies of men in its various forms, is alone sufficient to produce compound inflammations of the viscera and the limbs of the human machine. This disease seizes people in all seasons of the year ; but the cold wet weather of the winter and spring, and the cold dry or moist atmosphere or night damps in autumn, produce it in great abundance of cases. Dry colds commonly generate ardent and violent modifications of fevers, and a moist cold induces slow nervous or typhus fevers, as authors have chose to call them ; so we observe the various complexions of them prevailing in the four important seasons of the year, as the autumnal, the hibernal the vernal and the æstival fevers, which arise from the weather of these seasons. The winter is generally productive of simple inflammations of the head, lungs, throat, &c. : the spring is commonly distinguished by compound inflammations, as agues, smallpox, measles, sorethroats, coughs, giddiness, bleedings, eruptions of the skin, rheumatisms, croups, hooping coughs, and catarrhs. The summer brings colics, bilious fevers, insolutions, constipations, indigestions and fevers of the low order ; the autumn causes a host of ardent fevers, inflammations, putrid and bilious vomiting and purging, rheumatisms, consumptions, erysipelas, &c., and the winter is marked by the simple inflammations which annually occur in their respective seasons ; but great alterations of these seasons to any inclemencies or commutations, will change the exter-

nal aspects or complexions of acute distempers into modifications of extreme violence and mortality. Hence we find diseases alter in conformity to the nature of the seasons and the conditions of the atmosphere in these seasons. But some terrible epidemic distempers prevail in certain periods of time, say once in 5, 10, 15, 20, 40 or 50 years, and produce great slaughter among the inhabitants of the globe, on the event of some extraordinary constitutions of the atmosphere or the seasons, when the weather is very unusual and inclement, to affect men in a variety of ways, viz. by diseases and famines, with all the miseries therewith connected to molest and destroy them. In one period the plague rages, in another period the smallpox prevails, in a third period catarrhs and measles pervade the earth, as we have already shown in our history of pestilences. It matters nothing in point of cure whatever appearances these distempers may put on, their nature is one and the cure one in all their modifications and combinations, so we shall proceed directly to treat of their essential nature in their different complexions and combinations.

THE NATURE OF THE PESTILENCE OF EUROPE, ASIA, &c.

OR,

SECOND MODIFICATION OF COMPOUND INFLAMMATION.

In conformity to the plan I have followed, it remains for me to unfold the essential nature of the pestilence of Europe, &c. which has, as we have said, been called typhus fever, plague, ague, &c. In doing this I will have to delineate all their particular complexions of morbid phenomena, by enumerating each assemblage as they appear in every given case of the distemper.

The first complexion of symptoms I will mention is, that which consists of an inflammation of the brain and its membranes. When the strongest and outer membrane of the brain is inflamed in any case of what the world have called fever, the following symptoms are present to manifest its seat and danger ; horror and rigour, alternating with flushes of heat, great anxiety and oppression about precordia, disturbed sleep or frightful dreams. flushed and turgid countenance, nausea and vomiting, excruciating pains in the head, intolerance of light and sound, a peculiarly wild aspect, constant wakefulness, staring appearance of the eyes, ferocious delirium, dry parched tongue and skin, a hard rapid pulse, scanty high coloured urine, costiveness, hurried respiration, extreme anxiety, loss of appetite, hic-cough, starting of the tendons, picking the bed clothes, involuntary discharge of urine and stools, stupor following the delirium, tremours of the limbs, palsy of the tongue and limbs, &c., which are variously combined and augmented in their violence and appearance, and occupy a longer or shorter time. This form of the disease differs nothing from the pure simple inflammation of the brain, or inflammatory fever of authors, whether it happens in Europe or Asia, in summer or winter, but the following phenomena show that the inflammation is deeply seated in the substance of the brain, and is far more dangerous in its consequences.

When the substance and inner membraues of the brain are affected in a gradual manner, the following symptoms appear to characterize its deep seat and presence. An anxious and languid aspect ; a dry foul tongue ; a quick vibrating or irregular pulse ; turgid and flushed face ; deep seated beating pains in the head ; noise in the ears ; redness and rolling of the eyes ; intolerance of light and sound ; confusion of intellects ; disturbed sleep ; great thirst ; transient pains of the limbs ; torpor of the intestines ; oppression

about the breast ; laborious and deep respiration ; sighing ; retching and vomiting ; disposition to faint on motion or erect position ; moroseness and restlessness ; watchfulness ; confusion of thought ; visual illusions and delirium ; scanty high coloured urine ; dryness of the body and moisture of the head ; whiteness of tongue, &c., approach and rapidly advance to a fatal issue, if sufficiently powerful remedies are not employed to arrest its progress, and to produce a favourable termination of the disease. Supposing the distemper to proceed without interruption for three or four days, a faltering or rapidity of speech ; stupor ; tumour or collapse of the face ; low mutterings ; brownness, blackness, and parchedness of the tongue ; dilatation or distortion of the pupils ; palsy of the tongue, eyelids, limbs, &c. purple spots on the skin ; profusions of blood from the nostrils, mouth, bowels, lungs, &c. ; stertorous breathing ; apoplectic, hydrocephalic or epipleptic convulsions ; blindness ; deafness ; dumbness ; hiccough ; fetid breath ; involuntary discharges by urine and stool ; total insensibility, &c. supervene, and increase in rapid succession till the patient expires. This form of the disease often steals on insidiously. At first a slight headach and giddiness ; general lassitude ; oscitation ; costiveness ; loathing of food ; pains in the head and joints ; small quick pulse ; chilliness and flushing gradually come on and continue three or four days, when the symptoms I have described above rapidly supervene to augment the disease, and the danger. For pains of the head, and uneasiness of the eyes, at length, become severer ; the eyebrows corrugate ; the arms are tossed about the head ; the eyes are red and unable to bear the light ; dozings, dreamings, startings, staring or glossiness of the eyes, apoplectic appearance of the countenance, &c. manifest the seat of the inflammation. Sometimes, again, inflammation of the substance and finer membranes of the

brain comes on in the manner of a slow and gradual apoplexy and advances to a sudden and fatal event in the way of congestion of blood in the vessels of the brain. The subjects of it are suddenly seized after a long journey, excessive labour, exposure to the sun or damp nocturnal dews, with dizziness, dimness of sight, confusion of intellects, oppression about the heart, pains in the head and limbs, drowsiness, followed by sighing, snorting and starting in sleep, vacant countenance, a hotness or coldness of the extremities, whiteness of the tongue, frequently falling to the ground as in intoxication; small, low, frequent and irregular pulse; tremour of the hands; bloatedness or contraction of the features; dryness and dampness of the skin, languor, pallidness of the countenance, &c. and sinks in death in the same way that we observe persons to perish in insolutions, serous apoplexy, sudden congestive or effusive palsy or dropsy of the brain, in the course of three or four days. Some most striking cases of congestion, wherein fever and death followed their invasion on the fourth day, happened to fall under my care a few weeks ago. The pulse in them was at first slow and languid, the bowels torpid, the head sometimes sound to all appearance; sometimes drowsiness, and in the second or third day a fever of the hectic order supervened, and the patients sunk away in profound stupor or mortal jactitation. This assemblage of symptoms clearly manifests the presence of a disease exactly the same as insolation, which I have frequently met with in Europe, Asia, and America, in the hot months of summer and autumn. Indeed insolation in a slight degree, not so deeply injurious as to induce immediate inundation of the brain, and sudden death, will always produce a consequent inflammation of the brain, effusion of serum, hydrocephalic symptoms and death, if proper remedies are not employed in due time to prevent the affection.

Persons in insolation are variously affected; some fall dead in apoplexy to the ground, others grow dizzy, reel and stagger, experience dimness of sight, pulsating and distending pains in the head, insatiable thirst, fall into a stupid state or delirium, and great fever which destroy them in a few days, should powerful means and proper depleting remedies timely used, not prove effectual to reduce the local inflammation, and to prevent its consequences. Insolation is sometimes attended with furious ravings and contortions of the body, fierce delirium with rolling on the ground, flushed and turgid countenance, intervals of calmness and collection, or profound insensibility, strong full pulse or high fever, which quickly yield to copious bleeding, clysters and purgatives, when we can get them to swallow any thing. There is often an obstinate and final aversion to all liquids, as in hydrophobia, in such cases of insolation. Insolation often assumes the appearance of repeated faintings, and oppression about the stomach, attended with coldness of the body, and sometimes with suspension of the motion of the heart and arteries, or asphyxy, which I have equally relieved by venesections and purgatives. Persons in America are affected with the heat, and sink away in death, or fall into a gradual fever, and die in two or three, five or ten days, according to the relative degrees of violence of the insolation, subsequent fever, and fatal symptoms. I remember a case of insolation followed by apoplectic epilepsy, induced by congestion in the brain, which had produced inflammation and purulence of the posterior and superior lobes of the brain, that was known by no pain or uneasiness in the head, and could not have been supposed to exist there by the little hectic or low fever, wasting, slight shortness of memory, lameness or palsy, which existed to reveal the seat of the internal disease. Upon dissection a mass of purulence and yellowish serum penetrated from

the skull into the great cavities of the brain on each side ; the veins of the brain were turgid with blood, the recesses were filled with water, and water was diffused through the convolutions of the brain, and the strongest membrane adhered firmly to the cranium, &c. Thus we may trace the innumerable beginnings of compound inflammations in the typhus of Britain, the plague of Egypt, the remittent of Java, the intermittent of India, &c., when the morbid affection exists in the brain and its membranes. And whatever way or manner inflammations of the brain come on, whether immediately by stupor and slow or languid utterance, great prostration of strength, paleness of countenance, oppressive vomiting, &c., which put a period to human existence in the space of a few hours ; or whether by violent delirium, extreme anxiety, intense pain of the head, flushed countenance, hurried and quick utterance, &c., which rise to an amazing height of excitement, followed by a collapse, attended with carbuncles and death in the course of two or three days, we are always prepared to meet such occurrences with remedies suited to every individual case, when we foreknow that all modifications and complexions of fever consist of inflammations of some of the external or internal parts of the body.

In fact all morbid anatomists of distinction, who have been long accustomed to dissect the bodies of those who had died of these inflammations of the head, have always noticed in their innumerable *post mortem* examinations, that the morbid appearances found on dissecting the bodies of those who have died of affections of the brain, clearly demonstrate their nature and seat. The membranes are often found inflamed, thickened, or even gangrenous, with effusions of coagulable lymph between them. Adhesions are frequently observed in the convolutions and hemispheres

of the brain, and inflammatory specks or points or a mass of purulence in the medullary part. The plexus choroides is turgid with blood, and the ventricles contain serous, sanguineous or bilious or purulent fluid; in short water is often found effused through the convolutions, as the consequences of inflammation, congestion, insolation, &c. The whole brain is often found inundated with blood, the vessels being distended and turgid with it, or ruptured by it.

Having now made a few observations on the existence and presence of inflammation of the brain producing fevers of a peculiarly modified order, I shall now proceed to show that the same local affection seated in the organs contained within the cavity of the throat and chest, will also produce fevers of the same kind. Whenever the inflammation exists in the tonsils, fauces, windpipe and lungs, the fever is of the low order, and its symptoms manifest its presence in the membranous parts which are less capable of undergoing acute inflammation.

Inflammation of the throat is known by rigours and flushings succeeding each other, difficult and painful deglutition, hoarseness of the voice, burning heat, lancinating pains in the throat, copious excretion of mucus and saliva, pains in the ears, deafness, swollen cheeks and tumour of the external fauces, redness or soreness and tumour of the tonsils, uvula, and adjacent parts, cough, small, weak and frequent or irregular pulse, clammy cold sweats and extremities, fetid breath, great anxiety, signs of suffocation, stupor, starting of the tendons, sometimes delirium, which constitute typhus and anginous forms of fever. When the inflammatory affection principally occupies the windpipe and bronchial cells of the lungs, it generally begins with weight and pains in the head, oppression of the chest, shortened respiration, sense of fulness and stopping in the nose, watery inflamed eyes, cold shivering, running from the nose, transient

flushes of heat, soreness of the fauces and windpipe, cough, pains about the chest, rheumatic pains of the neck, increased secretion and expectoration of mucus from the mucous membrane of the fauces, windpipe and lungs, and gradually increases in violence as it advances towards its height. As these symptoms advance the pulmonary affection begins to show itself in the form of a vehement inflammation of the windpipe and lungs, and terminates in suppuration of the lungs, congestion of the brain, suffocation, consumption, effusion or gangrene. The inflammation of the substance of the lungs is sometimes so very obscure, that a cursory observer could not find out the seat of the inflammation, even though he believed the existence and presence of it in every given case of fever. I have often seen cases of deep seated inflammation of the lungs unattended with pains in the chest, cough, great difficulty of breathing or oppression of the chest; a vehement fever of the irregular and low kind, and slight pains in the head only existed to manifest the presence of a local affection. But we more frequently observe the subacute inflammation of the lungs and pleura, attended with a quick respiration, obtuse pains in some part or parts of the chest, a cough and uneasiness excited by motion and respiration, reveries of the head, flushed purple face, frequent hard contracted vibrating pulse, white tongue, high coloured urine, &c. which gradually increase and end in resolution, effusion, suppuration, congestion or gangrene. The inflammation of the heart in cases of fever is discovered by the symptoms of pains in the region of the heart, palpitation, fainting, extreme anguish, constant vomiting, unequal intermittent pulse, convulsions, &c. which commonly attend it.

Inflammation of the diaphragm is attended with acute violent fever, severe pains extending from the lower ribs to the very lowest vertebræ of the back; a binding tightness

round the margin of the lower ribs; a short singultous convulsive breathing; a vast anxiety and oppression; a dry cough; hiccough; delirium; excessive pain on every inspiration; convulsive laughing, called *risus sardonicus*; extreme difficulty of respiration, &c. which constitute a horrid combination of morbid evils in the human frame, often assuming the appearance of hydrophobia, or pleurisy, or peripneumony, or affection of the liver and heart.

The different organs contained in the cavity of the belly, are frequently the seats of acute and subacute inflammations, which constitute as many varieties in the modifications of fevers as the organs of the head, throat and chest have exhibited. Fevers of the high and low orders proceed from such inflammatory affections of the stomach, liver, intestines, spleen, pancreas, peritoneum, bladder, womb, reins, diaphragm and ovarium. If the inflammation occupies the stomach and intestines the pain is deep, continual and pungent, increased on pressure, and retching and vomiting; and great thirst and a desire of cold drinks, a short quick respiration, tension and flatulence of the bowels, immense prostration of strength, extreme anxiety and restlessness supervene; the pulse is quick and hard, small and sharp, sometimes beats very frequent. The patient is inclined to lay on his back, his tongue is white, his mouth clammy, his bowels bound, &c. which I have already illustrated under the head of yellow fever. When these affections terminate in suppuration, effusion, gangrene, or ulceration, slight chilly sensations or rigours, total cessation or great abatement of the pain, &c. occur, and induce many to suppose a favourable resolution of the disease, when, behold, a sudden collapse supervenes to finish the awful tragedy by cold clammy sweats, short oppressed breathing, sinking undulating pulse, incessant vomiting, frequent loose black stools, fainting, convulsions and death.

When the villous coat of the stomach is inflamed alone, the inflammation often advances to a fatal termination without pain, or even fever to excite any alarm. The patient only desires cold drinks, appears sometimes flushed and other times pale, vomits his food frequently, wastes away and dies unexpectedly. I have seen many young patients who languished and died in this manner, when, upon examination *post mortem*, the stomach was found inflamed without any other morbid appearance. In hot climates this villous coat of the stomach and intestines is most frequently affected with erythematic or superficial inflammation, which is partly produced by vitiated gastric juice, and cold and hot drinks, partly by the sudden obstruction of perspiration, and costiveness of the bowels. The phlegmonous inflammation of the stomach is known by a fixed pain and burning heat in the region of the stomach, sudden and great prostration of strength, a small, hard, contracted and rapid pulse, extreme anxiety, frequent hiccough, violent and painful vomiting of all ingestions, great thirst, &c. which continue to increase for two days, and terminates in resolution, suppuration, gangrene or ulceration. The resolution of the disease takes place in the general and gradual abatement of all the severe symptoms; and suppuration is ushered in by a remission of the pain, increased sense of weight and anxiety, and severe rigours; but gangrene is distinguished by a sudden cessation of all pain and heat after a violent exacerbation of the symptoms, as a solemn calm after a storm, intermittent and sinking pulse, hiccough, coldness of the precordia, delirium or calm intelligence, sinking of all the corporeal powers, cold extremities, and death. In cases where the inflammation occupies the intestines, an acute pain is felt in the abdomen, increased upon pressure, and the most twisting spasm about the navel, and obstruction of their canal, tension, and tenderness of the

belly, painful desire of going to stool, a violent retching and vomiting of a bilious, stercoraceous, or black matter, slow hard, contracted pulse, red urine, great debility, &c. supervene and terminate the existence of the patient by ulceration or gangrene, or he is saved by a favourable resolution of the inflammation. Inflammations of these two viscera are rarely attended with a greater or a less disturbance of the functions of the brain, which only become diseased in the course of the disorder of the circulation, but the senses and intellects are always natural, when the brain itself does not labour under local affection, inflammation, or congestion. Inflammation of the peritoneum and womb or bladder, or reins, or spleen, or fever of the slow subacute order, excites a low intermittent, remittent, or hectic fever, is very insidious, and often never exhibits a symptom whereby we can know its seat; the patient sickens, languishes in a slow low fever and dies, or recovers by the mere efforts of a natural subsidence of the morbid condition, or languishes in a hectic consumptive state for many months, and expires. Hence we may see the vast influence of the doctrine of fever, that teaches us that all fevers depend on some internal or external inflammations, from our knowledge of their nature, seats and cure. For, if we know not the real local seat of the inflammation, we perfectly know that it exists in some part of the body, and can employ remedies sufficient to cure it, although we should never discover its local residence. There is often a peculiar change in the countenances of those persons who are affected with visceral inflammations of insidious and obscure forms; such as expressions of extreme dejection and pcevishness, anxiety and pallidness, sinking and fainting, jactitation and prostration, lurid and apathetic appearances of the countenance, &c.

Whenever the liver is inflamed in cases of fever, a giddiness, a nausea and vomiting, a load and fulness about the pit

of the stomach, pains in the right hypochondriac region, increased upon pressure, lying on the opposite side and snoring, pains like pleuritic pains extending to the collar bones, dry cough, difficulty of breathing, a great depression of the spirits and prostration of strength, confused or delirious apprehensions, a quick, tense, hard and full, or a low small and oppressed pulse; a white foul tongue; red scanty urine; irregular bowels; dark slimy, bilious or frothy or variable stools; the heat of the body is sometimes great and other times little more than natural, and the skin at length becomes tinged yellow, &c., which slowly or suddenly approach, and rapidly or gradually advance to the fatal event of suppuration, or gangrene, or dropsy, if the inflammation is not timely removed by the use of remedies.

The spleen is often inflamed in cases of the slow remittent and intermittent fevers of the East Indies and low situations of England, Holland and America, when no supposition of its seat ever existed in the mind of the attending physicians, who have never supposed these fevers to depend on local inflammations. The symptoms of this affection in the acute form are pain, tension, heat and tumour of the left hypochondrium which come on suddenly or gradually according to the violence of the different cases. Inflammations of this organ and liver assume the subacute forms, commonly called chronic affections, more frequently than any other organs of the human abdomen.

If inflammation attacks the kidneys, the symptoms of obtuse or most acute pains are felt in the region of the reins in the back, extending along the course of the ureters or urinary ducts, accompanied with numbness of the leg and thigh of the affected side, retraction of the testicle, nausea and distressed vomiting, red, mucous or bloody urine, painful micturition, difficulty of voiding water, suppression of urine, &c., which proceed rapidly and subside

on the event of resolution, suppuration, gangrene or ulceration.

Inflammations of the bladder, womb, pancreas, &c. are often present in cases of fever, and are combined with the same affection of the caul, their covering, which communicates the disease or partakes of their disorder in the course of the fever. Inflammation of the bladder is attended with tumour and pain in the lower part of the belly, accompanied with painful micturition, stranguary, retention of urine, great desire of going to stool, and a strong, full and rapid pulse. The inflammation of the womb is accompanied with a great heat, tension, tumour, and pain in the lower belly, vomiting and low fever. The mouth of the womb is painful to the touch.

Now having gone through all the inflammations of the internal viscera, which produce what physicians have called idiopathic fevers, I come lastly to speak of the same affections of the external parts, that produce the same fevers in the human frame. But not to delay to illustrate what I must afterwards repeat in treating of simple inflammations, I shall only enumerate the names of those affections which constitute fevers in the body. Inflammatory affections of the integuments, glands, joints, spinal marrow, absorbents, bones, &c., combined with symptoms of internal affections, produce fevers of the worst description, as happens in fevers attended with buboes, carbuncles, subacute rheumatisms, and scrophulous diseases of the joints, inflammations of the spine, bones, absorbents and cellular membranes, the erysipelatous, vesicular, pustular, morbilious, varicellous, scarletinous, miliary, aphthous, &c., distempers of which I shall have occasion to illustrate more particularly, when I come to speak of the simple and eruptive forms of inflammations of these peculiar structures.

THE PROGNOSTICATION OF THE EVENTS

OF THE

COMPOUND INFLAMMATIONS OR FEVERS OF EUROPE, ASIA, AFRICA, &c

All those symptoms which denote the event of these diseases by resolution, prognosticate a favourable issue. A genial moisture on the skin, succeeded by an universal perspiration, looseness of the bowels, sedementous and copious urine, slow and soft pulse, abatement of thirst, delirium, febrile heat, pains, restlessness, and all violent symptoms of oppression and prostration, premonstrate the return of health. But those symptoms which bespeak the occurrence of suppuration, congestion, effusion, ulceration or gangrene, appear in their respective order.

Suppuration of any of the important vital organs is ushered in by rigours or chills, a remission of pain, great weight and uneasiness, colliquative sweats, vast debility, &c., which supervene on the fifth or tenth day, according to the structure of the inflamed parts. The approach of gangrene is discovered by a sudden cessation of pain, paleness of the face, sinking of the pulse, cold clammy sweats, hiccough, loss of sight, and general stupor ; or the patient expires in a fainting fit. Ulceration is easily known by a discharge of matter from the head, lungs, bowels, womb, bladder, stomach by vomiting, &c. Congestion and effusion of the organs is marked with an extreme impediment of the functions of the affected organs, as stupor and insensibility, suffocated respiration, extreme oppression of the heart, confined sensation in the stomach, &c. But the aggregate of all the dangerous symptoms consists in a ferocious deli-

rium or profound stupor, dilatation of the pupils, tumours, convulsions, involuntary evacuations, paleness of the face, palsy of the tongue and other parts, extremely quick and small pulse, anxious, oppressed, or deep respiration, suppression of urine, picking the bed clothes, hiccough, inexpressible anguish of the aspect, starting of the tendons, quick speech, or dumbness, loss of sight, perpetual vomiting, cadaverous fetor of the body, inflation of the belly, gangrenous spots, cold clammy partial sweats, passive bleedings, colliquative diarrhoea or sweats, expectoration of matter, with a violent hectic fever, a vomiting of matter or gangrenous flocculi, fainting in extreme debility, &c., which indicate the forementioned events of the inflammation of the different organs and parts of the body.

THE CURATION OF THE PESTILENCE OF EUROPE, &c.

When the inflammation occupies the outer membranes of the brain, which is easily known by severe pains distending and shooting in the head, wakefulness, furious delirium, convulsions, vomiting, redness and wildness of the eyes, fullness and flushing of the face, foulness of the mouth, suppression and redness of the urine, quickness and strength of pulse, hurried respiration, intolerance of light and sound, great thirst, preternatural heat of the body, &c. copious and repeated venesections are absolutely necessary to reduce the dangerous local affection. No limits can be made to the extent of the bleedings; we must bleed and repeat the operation on the first two days of the disease, until the local inflammation is subdued, although it should require the detraction of five or six, seven or eight pounds of blood, from the temporal arteries or veins of the neck or arms.

While we thus attempt the reduction of the inflammation by repeated missions of blood, it is necessary that the intestines be completely exonerated by powerful and effectual purgative medicines. Jalap, calomel, epsom salts, colocynth, scammony, gamboge, &c., in the form of pills, powders, or boluses, may be given largely, and repeated every two or three hours, according to the age and strength of the patient, till copious evacuations are produced. It is necessary also to administer some purging medicine every day during the course of the disease, to keep a free alvine discharge, which will of course diminish the quantity of fluids in the head, and co-operate with the bleeding to remove the local inflammation. Bathing the feet has also the good effect of softening and moistening the skin, by eliciting perspiration. Some recommend the head to be shaved and a large blister to be applied over it, as soon as the vehemence of the febrile symptoms have begun to abate by the use of bleeding and purging; but let every successful practitioner trust to the use of his lancets and of purgatives; "high bleeding and purging" in all fevers. When the local inflammation exists in the substance of the brain, or in its inner membranes enveloping its convolutions, which is characterized by a low muttering delirium, great prostration of strength, confusion of intellects, chilliness and flushing at the beginning, giddiness and dull pains in the head and over the whole body, nausea and vomiting, deep and slow respiration, sighing, frequent, small, intermittent or irregular pulse, great thirst, whiteness of the tongue, preternatural heat, suffused redness of the eyes and flushing of the countenance, throbbing of the temporal arteries, scanty and red urine, starting of the tendons, stupor, involuntary excretions, cold extremities, convulsions, obstinate obstruction of the intestines, &c., the young practitioner must not be deterred from using the lancet, and

administering powerful purges on account of the apparent debility and exhaustion of the patient ; he must bleed freely, and repeat the operation as often as the patient can bear the missions, purge copiously, and blister the head, till the local affection is finally removed, which generally happens in the third or fifth day of the disease.

Bleeding and purging, in deep seated inflammations of the brain, wherein all the powers of animal life are sunk, will relieve the general oppression, and revive the languid faculties and functions of the head, and all parts immediately depending on the sensorial influence, which comprise the universal frame. If it is once ascertained by the infallible signs of pains in the head, redness of the face and eyes, intolerance of light and sound, delirium and watching, vehement fever, &c., that inflammation of the brain exists, nothing should deter us from practising copious and repeated venesections, and exhibiting powerful cathartic remedies. A small, frequent, weak, soft, depressed, irregular, intermitting, slow, or tense pulse, in all cases of violent fevers, indicate the great necessity of bleeding, to relieve oppressed and depressed nature, as much as a strong, full, rapid, hard and tense pulse requires it repeatedly to lower excessive excitement of the living powers of the system. In all cases of inflammation of the substance of the brain, intestines, throat or fauces, the slowness, or feebleness, or smallness of the pulse, have deceived many practitioners, and have deterred them from drawing blood immediately, and in sufficient quantity to save their patients. Let that never be the blunder of the learned and faithful physician, who cares for the lives of his patients as one that must give an account to the author of his being.

When the local inflammations exist in the fauces, wind-pipe, lungs, pleura, gullet, heart, diaphragm, stomach, liver, intestines, spleen, reins, joints, glands, absorbents, &c., the

same remedies are requisite to subdue them. But it is of the greatest importance that the attending physician be well versed in the knowledge of discovering the seats of these inflammations, to enable him to meet all the dangerous symptoms prepared with all necessary remedies, for many physicians have been confounded on the appearance of any unusual symptoms in fevers, such as the presence of syncope and palpitation in affections of the heart, hiccough in inflammation of the stomach, obstruction of the bowels, and lowness of pulse in the same disease of the intestines, the intermissions of fever in cases of the disease in the liver, spleen and reins, &c., the knowledge which would render their practice stable, rational and successful in the administration of all their remedies. As soon as I feel the pulse and skin of any person, I can easily pronounce the presence of inflammation in the system, and I only want to know the situation of the pains, or the different disorders of the functions to enable me to ascertain the seat of the local affection, whence I proceed to practise according to the importance of the diseased organs, and the violence of the disease itself, carrying all my remedies to the utmost extent and frequency required for the reduction of the local inflammation in the shortest space of time. So we must boldly attempt to arrest its progress by copious and repeated bleedings, employed in the acute stage of these distempers, not being intimidated by the smallness of the pulse, which will become fuller and stronger after the operation, nor regarding the fainting, convulsions, extreme debility, palpitation, &c., which are the mere consequences or symptoms of the original local disease. Purging at the same time should be exhibited and repeated every two hours, till copious alvine evacuations are produced, and a warm bath applied to remove the remaining irritation of the inflamed parts, and to procure genial rest from all restlessness and burning fever. Dr. Dickson recommended

copious and repeated venesections in the first twelve hours of the disease, and the administration of powerful purges of jalap, calomel, aloes, &c., in combination, not only to unload the stomach and bowels, but to preserve the belly open during the whole course of the disease. He also prescribed blisters, cold effusion, stimulants, &c. Sydenham, Botalus, Rush, Welsh, and many other eminent physicians, have practised copious and repeated bleeding and purging in all fevers wherein violent reaction of the blood-vessels existed to indicate the propriety, quantity, and frequency of venesection and purgation. But according to my rational method, I employ bleeding and purging, warm and cold affusion or bath, where no reaction is present, or where the action of the vascular system is lower than natural, on the grounds that these remedies will infallibly subdue the local inflammations of the vital organs or parts, which oppress the living powers of the animal system, and lower the faculties of life beneath the natural standard. This leading principle of practice directs us to bleed in many cases, to raise the natural energy of the oppressed system in opposition to the apparent testimonies of our senses and understanding, and in conformity to the tenour of my universal maxim, *febres omnino curantur depletionem, quia earum natura est inflammatio viscerum, aliarumve partium, aut "contraria curantur contrariis,"* which was invented by the parent of rational medicine, and adopted by all his followers in all succeeding ages.

Dr. Thomas Dover says, that bleeding is the principal remedy required in the cure of this disease, which must be followed up till all the poignant pains and urgent symptoms are entirely removed. "I never knew one die of this disease," says he, "but for want of bleeding;" and again he says in cases of angina, "this disease yields to nothing but high bleeding," and in cases of erysipelas, "this inflamma-

tory fever is curable by high bleeding, and frequent purging," and his high bleeding amounted to upwards of a hundred ounces in a strong robust person. Dr. Leonardus Botallus says, "In a word, I think there is no plague in which bleeding may not be better than all other remedies, so it be used opportunely, and in convenient quantity; but I suppose it is found unprofitable sometimes, because that either it is used too late, or less is taken away than ought to be, or an error is committed in using of it both ways;" and afterwards he adds, "But in so great timidity, and in sparing phlebotomy, how can it be that any should judge exactly how much good or harm it may do in the plague? for if a disease, (for the cure of which the detraction of four pounds of blood was required, and but one pound was taken away,) kills a man, it does not therefore destroy him, because he was bled, but because it was not done in a due manner, or perchance in due season; but slothful wicked villains always endeavour to put the fault on that, not for that it did hurt, but because they basely desire to have it disliked by all: or if they do not do it wickedly, they do it ignorantly, by a perverse custom; both certainly are pernicious, but that most of all;" and thus adds in another place, "these things being observed, no reasonable man can well dispraise bleeding in these diseases, but rather greatly commend it, and confidently use it, which indeed I have done for these several years, and in pestilential diseases at the siege of Rochelle, and four years ago at the mountains of Hainalt, and for these two years at Paris, and the last year at Cambray. I found no remedy speedier and safer in all my patients, which were innumerable, than large and seasonable bleedings," which words are worthy to be written in letters of gold, and engraved on the understandings and memories of men in all succeeding ages, as with a pen of iron in the rock for ever; but alas! the

the influence of this grand practice never reached posterity, because it was not established on some infallible principle of direction. Dr. Thomas Sydenham in some measure adopted the practice of Botallus, and relates a remarkable circumstance of a surgeon at Dunster Castle, of the army, "that had been a great traveller, was a common soldier there, who humbly entreated the governor of the castle to permit him to do all he could for the relief of his fellow soldiers, that were then afflicted with this dreadful disease, and having obtained leave he took away a vast quantity of blood from every sick person, at the first coming on of the disease, before there was any sign of swelling: he bled them till they were like to drop down, for he bled them all standing in the open air, nor had he any porringer to measure the blood, and afterwards he ordered them to lay in their tents, and though he gave no medicine at all after bleeding, yet, which is very strange, of those very many whom he treated after this manner, not one died." Mr. Francis Windham, the governor of the castle, related this circumstance to Sydenham, and indeed Sydenham himself approved of that practice, but by false theory he was led to prefer sweating to dissipate the pestilential ferment of the humours, to the evacuating of it by bleeding. Oh the influence of erroneous notions! the greatest discovery that ever was made in practice, disappeared in a moment among the dark clouds of visionary theories! Dr. Benjamin Rush, following these two great luminaries of mechanical medicine, says, "Bleeding should be repeated while symptoms which first indicated it continue, should it be until four fifths of the blood contained in the body, are drawn away. In this manner we act in the use of other remedies." Thus we may see to what extent those bold practitioners had carried blood-letting, which ought to be everlasting examples of the necessity, propriety and frequency of venesection in all febrile

diseases. Indeed before I ever heard of the successful practice of those men, my mind was riveted to the practice of bleeding and purging, on the principle that all febrile distempers are unequivocally and essentially inflammations. Dr. Dewees, in conformity to the practice of Dr. Rush, drew one hundred and seventy-six ounces of blood from Dr. Physic, when he laboured under yellow fever.

THE OBSERVANCE OF PROPER DIET.

In all acute diseases no solid food or liquors are admissible on any account whatever in the acute period of their existence. In fact nature rejects all kinds of food and drinks, except cool water and simple beverages of herbs or meals, or lemon acid, &c. to quench the great thirst.

In the secondary or chronic stage of these diseases, light soups, panada, barley, rice, avenaceous, cumfrey, &c. decoctions, bread and milk, oysters, ripe grapes, peaches, toast and water, Indian arrow root, flour, tapioca, or sago prepared with water, may be allowed to repair the exhausted system, until the energy of the digestive organs returns with all its wonted vigour, when the patients may use stronger food, and return to their usual employments. For directions how to remove obstructions of the bowels and viscera, to regulate the sick in his person and living, to nourish the body, to employ exercise and mental solace, and form the constitution, we refer you to what we have said on the cure of the first modification of compound inflammation, where we have illustrated the remedies suitable to all other complexions of fever, in their method of cure.

Intermittent and remittent fevers require the same method of treatment that I have pointed out for typhus, nerv-

ous, inflammatory fever, and plague, in the preceding paragraphs. But to explode the errors of practitioners, and do away the prejudices of the people about the nature and cure of agues in their own ways of treatment, I shall explain more particularly the method of cure I have instituted for these ill-understood fevers. Every intermittent fever depends on the slowness and slowness of the internal inflammation, for its peculiar paroxysms, as we have already said; for if the inflammation of the organs was violent, yellow fever, plague, or ardent fever would be produced by the same affection. It is only the constant and gradual irritation of these slight inflammations of the liver, spleen, caul, stomach, intestines, sweetbread, glands of the mesentery, lungs, kidneys, spinal marrow, &c. that produces a feverish chilliness, or cold period of the ague, as happens in all inflammations of a more violent order, and raises the reaction of the vascular system to constitute the hot stage, which so excites and forces the powers of animal life, that a copious sweat breaks out to reduce the excessive heat and reaction to the natural standard. So as long as this slight inflammation exists in these organs, especially the liver and spleen, to produce a febrile chill, and an increase of heat and action, the paroxysms of inter and remittent fevers will continue to recur, and observe the same course. In consequence of these facts, I have necessarily employed the same remedies which I used in other fevers, viz. bleeding, purging, warm bathing, blistering, slightly mercurializing, &c. with unparalleled success, in all cases of the distemper, and have absolutely rejected the use of wine and barks, aromatics, liquors, emetics of antimony, opiates, cold affusion, ammoniates, saline draughts, bitters, oxide of arsenic, sulphate of tin, chalk, camphire, musk, myrrh, æther. All tonics and stimulants I reject in the acute period of the disease, and proceed on the depleting system, till all the inflammation is subdued, when

corroborant medicines, and nutrient food may be freely given to repair the energy of the constitution. Sir John Pringle generally found it necessary among the British troops on the continent, to begin with opening a vein, and to repeat the venesection according to the urgency of the symptoms, in the first five or six days of the disorder. Dr. Wilson Philip states on the authorities of other writers, "that the symptoms indicating blood-letting in agues, are those of increased excitement, and such as denote a disposition to local inflammation; that the period most proper for this remedy is in the hot stage, especially during the first paroxysm of the disease." Dr. B. Rush gives his testimony in favour of blood-letting in the following position, "that blood letting is indicated in fevers of great morbid excitement," from the great advantages and benefits of the evacuation itself. For venesection removes stupor and delirium, pains in the different parts of the body, oppression and vomiting; it reduces the preternatural frequency of the pulse, raises it when it is too low and small, procures perspiration and alvine evacuation, lessens the burning heat of the skin and stomach, prevents profuse sweats, chilliness, and diarrhoea, cures intolerance of light, induces sound sleep, prevents effusions in the cavities, spontaneous bleedings, abscesses and consumptions, dropsies, hectic fevers, and indurations of the internal viscera or organs; in short, it cures the local inflammation, and preserves the lives of myriads of our fellow men. Even Dr. Mead says, "thus a due regard is to be paid to this disease, which seems to be caused by an inflammation of some internal parts, accompanied with obstructions from bilious humours and too viscid lymph. Wherefore blood is to be drawn once or oftener, according to the patient's strength," and purgatives are to be ordered and repeated at proper intervals of time. Drs. R. Jackson, Hillary, Towne, C. Bennet, Bancroft, Dickson, and other

West India physicians, have recommended blood-letting in ardent, bilious, yellow, malignant, and marsh fevers, which include both the inter and remittent kinds ; and even Dr. W. Cullen, the great enemy to venesection in fevers, as well as Thomas, Philips, Buchan, Churchill, Dover, Huxham, Morton, W. Currie, &c., admits the utility and the necessity of bleeding in all cases of intermittent fever where the phlogistic diathesis, or inflammatory disposition prevails, which, says he, “ must be removed by blood-letting and the antiphlogistic regimen,” and as I have proved its presence in every fever, his rule will admit of an universal application, viz. bleed in all fevers where an inflammatory excitement exists. Inter and remittent fevers, therefore, require blood-letting at their commencement, to reduce the local affection of the liver, spleen, caul, reins, &c. which excite the accession of fever, and perpetuates its paroxysms.

In the chronic period of the fever, when we apprehend the presence of visceral obstructions, indurations, dropsies, palsies, defluxions of the joints, fluxes, tumours of the liver, spleen, glands of the mesentery, &c. repeated doses of the submuriate of mercury, or mercurial pills, frequently clear away these consequences of such inflammatory affections. If abscesses form in those internal organs, and have no vent into the cavities of the intestines, stomach, head, thorax, &c. we must support the strength, and leave the cure to unassisted nature.

THE DESCRIPTION AND CURATION

OF THE

ERUPTIVE INFLAMMATIONS OR PESTILENCES WHICH ENDEMICALLY
AND EPIDEMICALLY RAGE IN THE WORLD,

OR

THIRD MODIFICATION OF COMPOUND INFLAMMATION.

This great modification of compound inflammation consists in a general inflammation of the skin, cellular, mucous, serous and fibrous membranes, glands, absorbents, fauces, windpipe, and sometimes of the brain, lungs, heart, stomach, intestines, liver, in short all parts of the body, which comprehend four or five forms of the disease commonly named measles, erysipelas, natural pox, scarlet and vesicular eruptions, that are all fevers attended with cutaneous eruptions of vesicles, pustules or pimples, solely of an inflammatory nature, generally infesting the young of both sexes, in certain seasons of the year, and at particular periods of time.

These eruptive inflammations generally prevail in the end of winter and spring, and beginning of summer ; but especially in spring, when commotions and vitiations of the humours originate from the peculiarities of the season and constitution of the atmosphere to create universal inflammations of the bodily parts. So epidemic diseases, says the great Sydenham, begin early in the spring, viz. in January, and increasing gradually, come to their height about the vernal equinox, then begin to decrease and vanish about the summer solstice. Of this sort are the measles and

agues, but others that pass through the vernal season increase daily, and advance to their height about the autumnal equinox, and begin to decrease on the approach of winter. Of this sort are plague and smallpox, when they become epidemical. In some particular winters, however, the smallpox rages during all the season, and produces dreadful havoc among the inhabitants of the earth. "*Febres autem ardentes ante ver cœperunt et ad æquinocmium et usque ad æstatem perseveraverunt,*" says Hippocrates, and in another place, "*Quibus in febribus continuis pustulæ toto corpore enascuntur, lethale est, nisi quæ in apostemata abscedant,*" which last prenotation certainly alludes to the smallpox going into apostumes. No doubt this dreadful distemper is the same that Moses called inflammatory apostumes, ulcers, pustules, Exod. ix. 10. Job ii. 7. Deut. xxviii. 27. which began in pimples, rose into pustules or apostumes, and degenerated into ulcers of the cuticular surface of the body, attended with an ardent fever. Job was smitten in the land of Uz with sore ulcerating biles, or foul apostumes, from the soles of his feet to the crown of his head, and he took a potsherd to scrape himself; his disease was certainly the smallpox. The next accounts we have of this pustular fever are found in the writings of the physicians of the land of Uz, or Arabia, where it arises from the extreme heat of the air, and burning sands, and the contaminating vapours which prevail in eastern countries. In Arabia, Egypt, Africa, Ethiopia, and India, pestilential fevers are often accompanied with pustules, carbuncles, apostumes, gangrenous ulcers, buboes, &c. on the surface of the body. At the same time I believe that the cold dews of the night, and cold winds or rains after burning winds and sultry heat, independent of the arsenical, nitrous, putrid, mephitic exhalations arising from stagnant waters, mud, bowels of the earth, mentioned by some writers, will produce the dis-

temper. The cold rainy months of December and January begin the plague, which rages all summer, and subsides in the winter, with all the symptoms of inflammations of the most important vitals, and the smallpox also begin to rage about the vernal equinox, along with the measles, which begins in England about January, and continue through summer and autumn, and disappear in the winter. All eruptive diseases, such as smallpox, measles, chicken pox, scarlet fever, nettle rash, vesicular fever, impetigo, bites, pimples, &c., generally commence in the opening of the spring, which seems to expand the volume of the blood, and excites commotions of the humours, never failing to create eruptions of the surface, as well as inflammations of the internal parts. The vernal moisture and sudden heat produce amazing changes on the face of the natural world, on men and beasts, on the trees, grass and rivers; all nature seems to be changed. So the sudden heat and moisture of spring, after a long severe winter, will create these cuticular distempers in great abundance. The spring opens with agues, measles, quinsies, scarlet fever, &c.; the summer brings the smallpox, the autumn produces burning agues, and malignant fevers, which all partake of the same essential nature, and only have their aspects changed by the continuance or alterations of the weather, and constitutions of men, produced by these seasons. We know that cold wet springs, summers, and autumns, will produce peripneumonies, quinsies, pleurisies, phrensies, agues, catarrhs, anginas, dysenteries, measles, slow fevers, hoopin-gcoughs, &c; and dry hot seasons, on the other hand, induce burning agues, ardent bilious distempers, malignant fevers, insolutions, apoplexies, cholera, &c., which we witness annually to occur among us, when such seasons exist; but what peculiarities of the constitution of the seasons produce smallpox, none in any age or nation have told us. But I will

attempt to explain the causes of the smallpox, and all other eruptive diseases in their order.

THE CAUSES OF ERUPTIVE INFLAMMATIONS.

Measles and scarlet eruptions, the great precursors of smallpox, usually arise from sudden and great changes of the weather, constituting a peculiar state of the seasons. An open variable winter and spring, for instance, attended with some warm, some cold, some wet, and some dry weeks or months, always produce measles, scarlet fevers, sore throats, ague fevers, catarrhs, &c. ; and if the summer following is hot and wet, natural pox will appear, and prevail till the end of autumn. For the beginning of such a constitution of the seasons generates measles, scarlet fevers, catarrhs, coughs, erysipelas, &c. ; and the same constitution protracted through the spring, will create the natural pox in summer and autumn. Dr. Sydenham says, "when the natural pox rage, the fevers that wander at the same time, do plainly partake of that inflammation which produces the natural pox, for both diseases began after the same manner, and there was a great likeness betwixt the proper symptoms of each, excepting the eruption of the smallpox, and the rest that depended on it. In like manner the bloody flux, (says he,) partook of the nature of the fever that then prevailed," which disease he considered a fever introverted towards the intestines. So he considered all diseases occurring under one constitution of the atmosphere and weather, and seasons, to be nearly the same. He asserted that fevers arose from the constitution of the year, or some secret peculiar condition of the air. In 1667, 8, and 9, the constitution of the seasons began to be productive of the smallpox, about the vernal equinox, which continued all summer,

became epidemical in autumn, and again vanished in winter. They returned the following spring, and continued till winter, as they had done before, and in the third year reappeared in the same manner. Now if we can find out the natural constitution of the seasons of those three years, we shall also discover the real causes of the natural pox existing in the seasons of those years, and in the weather of those seasons. The summer of 1664, in England, was wet ; the wheat was mildewed : the winter of 1664—5, was terribly severe with long frost, and peripneumonies, pleurisies, quinsies, rheumatisms, &c., were frequent in London. Agues prevailed from 1661, in those wet cold seasons, in the spring summer and autumn, and continued fevers in the winter. The spring of 1665 became suddenly warm, and the ensuing summer was extremely hot, and autumn was also very hot and sultry. So inflammation and agues, &c., all disappeared in malignant fevers in May, increased in frequency and mortality as the season advanced to autumn, when the deaths in the month of September, in the second week of the month, amounted nearly to 3000, and all those who died of this plague were affected with carbuncles, buboes, glandular swellings, purple spots, &c., the highest degrees of eruptive symptoms of pestilences. So the plague disappeared by the severe frost of winter in 1666, and the natural pox began to rage in the spring of 1667, about the vernal equinox, accompanied with a fever that had continued through the winter of 1666 to the spring of 1667, and continued until 1669, when they gave place to an epidemic dysentery. The summer of 1666 was extremely hot and tempestuous, the winter severe, and the spring of 1667, opened suddenly with a great thaw, when a new constitution of the seasons, or a period of different seasons began to produce a series of new pestilences. The smallpox began to prevail in March, accompanied with a contemporary fever of the continued

complexion, which greatly resembled the smallpox in all its symptoms, except the eruption of pustules, and these two diseases raged together in the same constitution of these years.

The summers of 1667, 8, 9, were excessively hot, autumns sultry and insalubrious, the winters very severe, the whole seasons were marked with tempests, storms, and variable weather, which evidently produced the smallpox in Europe and America. In 1670, 1, 2, measles, dysenteries, smallpox, bilious colics, fevers, &c., proceeded from severe winters, sudden springs, hot summers, and sultry autumns. The summer of 1676 was cold, and measles and smallpox prevailed. It would appear, then, that a sudden warm spring and cold wet summer, after a severe winter, will produce measles, smallpox, scarlet and malignant fevers, as happened in England and America in 1675, 76, 77, and 78, from the reasons which mildewed and destroyed all the fruits of the field. But I am also of an opinion, that a continuance and a succession of causes are required for a series of seasons to generate an epidemic natural pox, or measles and scarlet fever, as well as the plague. The cold months of the summer and autumn of 1783 and 4, created scarlet angina. The variable and warm weather in the December of 1788, and January and February of 1789; the cold and wet weather of April and May, constituting a cold backward spring, produced measles. Huxham mentions a cold damp spring in England, that generated measles, which we always observed to accompany or precede the smallpox, scarlet fever, gangrenous sore throats, erysipelas, catarrhs, &c., in our own countries. But in the tropical regions of Africa, Asia, Europe, &c. we find that natural pox prevail mortally in the cold seasons of the year, after a burning season of heat and rains. Now to prove that colds and heats, changes and peculiar constitutions of seasons, gene-

rate all these eruptive distempers, I shall enquire into their real essential nature.

THE NATURE OF ERUPTIVE INFLAMMATIONS.

On dissecting the bodies of those who have died of smallpox, we have always found traces and remains of inflammation in the cellular membrane of the whole body, and, where the swelling had been great, the cellular substance was distended with a serous fluid. We observed the whole throat, windpipe, and air cells, covered with inflamed pustules; the mouth, pharynx, larynx, &c. are often gangrenous. The lungs are filled with extraneous humours, are darker than natural, and sometimes inflamed and gangrenous; indeed the pericardium of the heart is frequently diseased; obstructions, inflammations, abscesses, gangrene and purulence often exist in the viscera. The brain is sometimes distended with blood, or collapsed in its bulk, and gangrenous in its membranes; the stomach and intestines are often found erysipelatous and dark, the caul wasted and putrid, &c., and serous and sanious and bloody colluvies lying in the cavities of the brain, chest, and abdomen. In short, we find the quinsy, angina, scarlet fever, dysentery, peripneumony, pleurisy, phrenzy, ophthalmy, diarrhœa, rheumatism, profuse bleedings, retention and suppression of urine, measles, salivation, erysipelas, epilepsy, obstinate constipation, vomiting, inflammation of the stomach and intestines, scrofula, tumours of the joints, consumption, &c., present in cases of smallpox and measles. Both these diseases are inflammations of the subcutaneous cellular texture, their mucous and serous membranes, absorbents, glands, &c. Dr. Boerhaave said, "*Morbus erga ille, af-*

finis omni acutæ inflammationi;” and Dr. Hunter also considered them inflammations of the esysipelatous, scrofulous, rheumatic, morbillous, &c. order, because the inflammations of smallpox and measles principally occupied the glands of the mouth, throat, mucous membrane of the nostrils, lacrymal and mesenteric glands, excretory membrane of the skin, mucous membrane of the windpipe, the absorbents, &c. And to create such inflammations two circumstances are required; first, the peculiarly moist cold after sudden warm weather, in succession and continuance, to affect the particular structures of bodily parts; secondly, the peculiar predisposition of the constitution to such affections, induced by various causes; besides, the very symptoms will show their identity with other inflammations.

If any one should object to my doctrine of their nature and causes, I would only ask the causes and nature of furuncles, carbuncles, buboes, tumours of the glands, erysipelas, measles, scarlet fever, anginas, quinsies, nettle rashes, pemphigus, and all the host of eruptions on the external surface; for I believe, that the peculiar constitution of the seasons, not only produces these diseases proximately, but even prepares all the humours and soft parts of the body for the great changes of condition of these different textures and parts, generating humours, or changing them, and directly affecting the external parts of the frame, to create such inflammations of the cutaneous and subcutaneous textures, as we observe in eruptive distempers. The seasons must have a certain constitution, the atmosphere a certain temperature, and the humours of the body a certain condition, before such disorders can be produced. If the weather is too inclement or mild, the heat too great or little, and the commotion of the humours too enormous or trivial, these eruptions will not appear; but distempers of a higher

or lower gradation of morbidity, will appear in their place. So we only observe these eruptive inflammations once in two, three, five, ten, twenty or forty years, and see them continue annually for as great a number of years in succession, according to the peculiar constitution of the seasons, and temperature of the atmosphere, whence almost all acute diseases proceed.

THE SYMPTOMS OF THE NATURAL POX, &c.

The natural pox generally begins with shivering and chilliness, which are immediately followed by excessive heat, and violent pains in the head, back, loins, limbs, the pit of the stomach on pressure, dulness and drowsiness, vomiting, thirst, costiveness, redness and scantiness of urine, great tendency in adults to sweat, coldness of the extremities in children, convulsion, profusions of blood, strong and rapid pulse, or frequent and small one, that continue for three or four days under the form of an ardent fever. On the fourth day inclusively, an eruption of small red pimples, or spots like fleabites, or pinheads, appears on the face, neck, breast, &c. which continue to increase in multitude and magnitude for another four days, when they are completely formed into prominent spherical pustules, surrounded by inflamed margins, filled with purulent like matter, dispersed all over the surface of the body, in the mouth, fauces, windpipe, nostrils, on the balls of the eyes, palms of the hands, soles of the feet, &c., and on the twelfth day begin to blacken and die away, or pours out an ichorous pus or liquor, that forms into black crusts. Sometimes on the eighth day of the disease the spaces between the pustules grow very red, and the whole head and jaws swell, the

hands and feet also swell, salivation ensues, hoarseness, difficulty of deglutition, tumour of the throat, stupor or delirium, violent excitement of the vascular system, sickness at stomach and vomiting, gangrene of the eruptions, blackness of the tongue, hemorrhages from the natural pores, &c. supervene ; the pustules sometimes run into clusters of purulence and gangrene, and erythematic efflorescence, livid spots, &c. appear on the body, and the patients die about the twelfth day. In short, when the inflammation occupies any of the important viscera, as the brain, lungs, stomach, intestines, heart, caul, reins, &c., known by delirium or stupor, cough, and difficult respiration, small hard pulse, vomiting and fainting, looseness in children, obstruction of the bowels in adults, profuse sweats, restlessness, anxiety, spitting of blood, &c. the disease assumes the form of a deadly typhus or plague.

In considering the origin and cause of these morbid phenomena, I am led to conclude, that the nature of the disease is an inflammation of the mucous membranes, absorbents, and lymphatic glands, skin, subjacent cellular texture, serous membrane, and the most important viscera of the body, in its different complexions and combinations, and therefore they will assume the complexion of erysipelas, measles, humid tetters, chicken and smallpox, vesicular, miliary, aphthous, petechial, scarlet, pestilential, &c. fevers, as well as inflammations of the lungs, pleura, brain, heart, diaphragm, stomach, intestines, liver, spleen, reins, caul, mesentery, bladder, &c. in some degree of violence, although they are characterized by the external morbid phenomena of inflammation of the cutaneous contexture, and subjacent cellular membrane.

Having premised these things respecting the nature of cuticular inflammations of the eruptive order, I am not surprised to see the morbid symptoms of pimples, vesicles,

pustules, apostumes, ulcerations, crustations, cicatrizations, pains in the head, chest, stomach, loins, joints, belly and limbs, tumours of the face, legs, neck, &c. epilepsy and delirium, or stupor, obstipation or diarrhœa, profuse perspiration or dryness of the skin, erythematic redness or lurid paleness of the surface, scrofulous tumours and ulcerations of the joints, salivation or dryness of the mouth and fauces, cough and difficult respiration, high coloured scanty or bloody urine, hemorrhages, cramps of the legs, black putrid stools, a continued or remittent fever, great prostration of strength, purple spots on the body, gangrenous blotches, blindness, consumption, lameness, rottenness of the bones, &c., which exist separately in other inflammations, especially of the face, head, mouth, throat, eyes, lips, nostrils, brain, wind-pipe, lungs, ears, heart, stomach, liver, spleen, intestines, caul, reins, and particularly of the skin, subcutaneous membrane, glands, absorbents, lymphatics, serous, mucous, synovial, cellular, fibrous, medullary, and glandular textures and structures, that we observe to occur in cases of erysipelas, scrofula, measles, aphthæ, miliary, scarlet and vesicular eruptions. We often see poisonous herbs, burning metals, and insects, produce inflammations of the skin, not unlike these eruptions, and why should we not suppose that the internal heat of the body, raised to a certain degree, and the heterogeneous particles of the humours, sticking in the cutaneous and subcutaneous textures, all moved or created by the peculiar seasons, and a certain state of the atmosphere, will generate universal affections of such parts? Profuse sweating in bed will produce miliary eruptions, mercury transpiring with the sweat, will create a general eruption of purulent or ichorous vesicles or pustules, very similar to incipient and matured smallpox.

The measles consist of a commotion of the humours, which cause the gross particles of them to inflame the cu-

cular and cellular textures, in persons that have not been habituated to intense cold, or accustomed to perspire for many months. This commotion of humours too, proceeds from their expansion, produced by the external warmth of the spring, rather than from any vitiation or corruption of the humours, by some inexplicable and unknown qualities of the air. So a continuance of the same seasons will produce the smallpox, which appears to be measles increased to a greater degree of violence, and peculiar modification; and to explain the real causes of natural pox, and all other eruptive inflammations, it appears necessary to expound the effects and influences of the seasons and atmosphere on the bodies of men. We shall therefore illustrate the effects of a severe cold winter, and progress to each season as they come in their natural order.

The severe cold of a dry winter, binds up all the cutaneous pores of the body, and determines all perspirable matters to pass by urine, and thence keeps an equilibrium of the ingestions and excretions, in point of consumption and expenditure of the human fluids. It dries and braces the whole contextures and fibres of the body, promotes and strengthens digestion, assimilation, secretion, excretion, &c., it densens all parts, and consolidates every organ in a healthy compact of functions and operations, and disposes almost all well persons to acquire vigour, strength, and energy of body and mind. Some few may fall into inflammations, from the circumstances of profuse sweats being elicited in that season, and sudden moist cold being applied to stop the pores, which is connected with the fates of men, but this will be no exception of our general rule. The heat of summer has the very contrary effects on the bodies of men; it expands the fluids and solids of the human body, accelerates the motions of the humours, opens all the cuticular pores, and diminishes urine in proportion as it increases the

perspiration, it relaxes and softens the different structures of the body, retards and weakens digestion, assimilation, secretion, and excretion, lessens the vigour, strength and energy of body and mind, as well as emaciates the universal frame, and contaminates the blood and humours. Now the great danger does not lie in these two extremes of heat and cold, in these two seasons of winter and summer, but in the suddenness and greatness of the transition of the one extreme to the other, although I believe, at the same time, that the kinds of food, modes of living, the nature of the soil and situation, the climate, &c., have a great influence to aid, or hinder, or counteract the morbid effects of insalubrious vicissitudes of the atmosphere, as well as the peculiarities of constitution, and exposures to the exciting causes, the relative conditions of the moistness or dryness, lightness or heaviness, rarity or density, purity or impurity of the air, which must be taken into consideration as we investigate the different diseases of different seasons, and various distempers in the same seasons, arising from the variety or diversity of the weather, in such seasons. Now to explain the ways and manner in which all diseases arise, it is deemed necessary to constitute the years into certain peculiar seasons, following each other in a succession and continuance of the constitutional properties and conditions of the surrounding elements, whence we shall comprehend the great mystery of diseases.

1. The constitution of the seasons necessary to produce pestilential fevers in Britain, consists in the excessive elements of the seasons. An extremely severe winter, suddenly moist and warm spring, an excessively hot summer, and a sultry close autumn, distinguished with cold rains, hot burning days, cold damp dewy nights, dense, moist, hot and cold weather, all unusual and inclement vicissitudes of the atmosphere, which is loaded with vapours

and exhalations; the south alternating with the north winds, or suffocating calmness, cloudiness or serenity, are seasons which constitute a period of pestilences. Such a constitution of the atmosphere existed in the years 1665 and 1666, when the plague, in all the violence of an endemic distemper, infested the miserable inhabitants of London, destroyed a hundred thousand of their lives, during that period, in little more than a twelvemonth, and vanished on the approach of winter. This plague commenced in the beginning of summer as a burning fever, and increased in malignity in the burning days and cold nights of autumn. After that time the constitution of the atmosphere in the seasons changed, and produced a host of distempers of different complexions.

2. The constitution of the seasons suitable to generate eruptive inflammations of the cutaneous, cellular, mucous, serous, glandular, &c. structures and membranes, as measles, natural pox, scarlet fever, &c., consists in a severely cold variable winter, a suddenly warm thaw in spring, with cold weeks towards the vernal equinox, a variable and intensely hot summer, with rains and tempests, a sultry autumn, with intermediate cool days, and showers of rain, and heavy dews, all marked with close vapours and exhalations, constitute a period of eruptive inflammations, and continued fevers, in the isles of Britain.

A series of years of such seasons, succeeded the great plague in England of 1666, and then gave place to a series of five years of different seasons, and the eruptive fevers again appeared with their respective constitution of the atmosphere of 1670. So in 1675, the winter was pleasant and warm, like summer, succeeded by a cold moist season, produced neither plagues or eruptive distempers, but catarrhs, peripneumonies, pleurisies, quinsies, rheumatisms, low fevers, &c., universally prevailed. Now we see that a very cold winter will dissipate all vernal, estival, and au-

tummal distempers, and an intensely hot and dry summer, and autumn, will carry diseases into pestilences or plagues, which seem to swallow up all previous epidemics of the year. It appears then evident, that all eruptive distempers or fevers originate in the peculiarities of the atmosphere, in the different seasons of the year, and that these peculiarities of the elements may continue to exist and operate for a series of years, and vanish for a series of years, according to the dispensations of the Author of nature, in regulating the perpetual round of years, seasons, periods and elements.

In Egypt, India and Arabia, the natural pox annually prevail, and on the increase of the natural causes, they produce in some years a ténfold greater mortality. The causes in those regions are the same as in Britain, namely, cold and sudden heat of the atmosphere, together with all other causes that may exist to create inflammations of the peculiar membranes and parts of the body, in the general and particular structures. Should any one imagine that some “specific contagion” exists in the air to engender pustular fevers, independent of the elements of the atmosphere, the vicissitudes of the seasons, and vitiation of the humours of the body, I would only ask him, what is it? whence does it originate? He must enter into a chaos of visions, he cannot explain it on rational principles, nor prove its existence with rational arguments. I believe that all the changes in the human body, observed in cases of eruptive diseases, are produced by the temperature, the constitution, the condition, and mutations of the atmosphere, or surrounding elements, including the coldness and hotness, the wetness and dryness, the density and rarity, vicissitudes and impurities, the commotions and electric fire, the proportions of the natural constituents of this atmosphere, which produce all epidemic distempers in nature. The manner in which these causes act on the body, to generate diseases in the constitution,

must also be illustrated to open the great subject of natural contagion, in the generation of these eruptive fevers. Such changes being produced by the winter, as we have mentioned, it will consequently follow that the very contrary temperature of the atmosphere in spring, will produce the contrary effects, for the sudden reversion of the humours to the skin, in perspiration, &c., will of course diminish the quantity of urine, and cause all the ammoniacal salts, and other materials to be retained in the blood, or to transpire through the pores of the skin, which, having so fine vessels in their structure, do not transmit the grossest of their parts, and consequently these acrid particles stick in the skin, and stop in the cellular membrane or interstices of the porous structures, to produce topical inflammations of the external integuments. If this inflammation, induced by an obstruction and irritation of the capillary vessels of the surface, is affected in a slight degree, the measles or scarlet fever, chicken pox, &c., only exist; but when the inflammation runs high, by the augmented influences of the external atmosphere, and accumulated impurities of the blood thereby induced, the natural pox immediately follow in all their virulence and prevalence, to molest and destroy unhappy mortals. According to our opinion then, the inclemencies of the elements, and the too great and sudden vicissitudes of the atmosphere, in the seasons of the year, generate impurities and commotions of the humours of the body, when they operate on the persons of men, in continuance and succession, sufficient to effect an inflammation of such membranes and textures of the body. The inclemencies of extreme heat and cold, however, are the principal agents in the generation of natural pox; and farther, I can produce facts from history, over which the world has no control, to evince the truth of my sentiments of the natural and common origin and production of eruptive fevers, in the

manner I have explained. The great Hippocrates was better versed in the knowledge of the natural causes of these eruptive diseases, than all the physicians of the present day appear to be, which is proved by the following quotations: “*Anthraces in crunone æstivales grassabantur, quando multas aquas in æstu compluit universim, et præcipue fit austro, et ichores quoque in cute supervenibant, intusque inclusi incalescebant et pruriginem excitabant. Hinc pustulæ, (phlyctunæ,) igneæ erumpunt, et sub cute uri videbantur. Æstu magno ariditate febres plærumque ardentes in quo autem irrorabat in initio sudantiores fiebant. Hæc descriptionis difficiliores sunt difficilores curatu quam aliter essent. Minus autem nisi ab hoc rerum statu quam ex morbi natura procederent. Ardentes plurimum febres in his æstivis contingunt et aliis temporibus. Æstate vero præsertim æstuante exsiccabant superficiem.*” In whomsoever, he says in another place, pustules break out over the whole body, with continued fevers, it is death, unless they go away in purulent apostumes, especially in those who use to have them about the ears. Hippocrates, indeed, perfectly knew the *phlyzakia en synechesi*, pustules with continued fevers; *phlyctanides ek kopon, ton. iochuron*, pimples on labourers; *exanthemata hoia ton konopon gemata en pureto*, the efflorescences like fleabites, with fever; *phymata sun pureto*, tubercles with fever; *epinyctides*, pungent pimples of the night; *erysipelata sun pureto*, burning vesicles or tumours with fever; *phagedænai*, gangrenous or phagedenic ulcers; *bubones*, tumours of the groins; *anthraces*, carbuncles with fevers; *haimalopides*, vibices or blood-coloured blains in fevers; *erythemata*, rosy redness of the surface; *pemphides*, or vesicles and pompholyges, bladders with fever; *phlegmonai*, inflammations, &c., which comprehend the smallpox, measles, pimples, efflorescences, blains, St. Anthony’s fire, shingles, buboes, car-

buncles, miliary and scarlet eruptions, furuncles, &c. of the present day, and bespeak the superiority of his knowledge of the causes and nature of all these cutaneous or eruptive inflammations, which, according to his opinion, arose from the acrid effervescent humours of the body, generated by the vicissitudes and conditions of the atmosphere, bad foods, heating drinks, the commotions of the hot blood, and profuse sweats. If a corruption of the humours, an estuation of the blood, profuse perspiration, &c., produced by the seasons and elements of the atmosphere, create these diseases, why should we search for that undefined, unknown, and even nonexistent being, "contagion," as the great creator of all such inflammations? Let us reason, and think naturally and rationally on all subjects, and our senses and intellects will never deceive us.

Many of the eruptive inflammations, indeed, arise from the peculiarly deranged state of the digestive organs, particular constitutions, certain condition of excretory functions, kinds of food and drink, manner of living, &c., in sanguine melancholic temperaments, and sanguine scrofulous habits, with a thin soft skin, spare form, dry hard surface of the body, or in relaxed and bloated habits, wherein any acrid humours, exuding through the pores of the skin, are apt to induce local inflammation of the skin and cellular membrane. Of this kind is the impetigo, erysipelas, which attack persons, and regularly return in the autumn and harass them during the winter. The common impetigo and measles generally happen in the spring. Local tetter is produced proximately by the action of some irritants on the cuticle, such as burning lead, sugar, lime, saline particles of blood, potass and soda, poisonous substances applied to the body, violent exercise, intemperance, depressing passions, sudden colds and heats, vitiation of the fluids, which raise commotions of the humours, and disorder the cutaneous tex-

tures. Wounds and punctures, stings of insects, and violent fevers, also produce erysipelas, and other eruptions in some parts of the body, in persons addicted to spiritous liquors, or of a costive scrofulous habit of body. Indeed the peculiar state of the digestive organs, the contamination of the blood, induced by whatever causes, the heats and colds of the atmosphere, modes of living and exercising, quantities and qualities of food and drink, producing obstructions and derangement of the skin and cellular membrane, ought to be esteemed the causes of all pustular, vesicular, papular, efflorescent, and squamous inflammatory eruptions of every description. Long costiveness of the bowels, attended with a consequent vitiation of the circulating humours, always induces erysipelas in my face; because long constipation diminishes the urine, and causes a great many noxious particles to be absorbed from the intestines, and to be retained in the blood, which vitious humours seem to have a great and bad influence on the natural state of the brain and whole head, to create such an affection. According to my feelings, the approach of the disease was gradual and insidious: at first I felt a sleepiness and heaviness of the head, obtuse soreness of the whole head internally, increased by eating, and by any spirituous liquors; weariness and languor, sense of cold, and obtuse dulness of the intellects came on and gradually increased for five or seven days, when the inflammation of the parts at the side of the nose appeared, powerful purging always carried it away, and preserving the bowels open always prevented a return of the distemper. To illustrate the effects of saline and bilious matters, or acrimonious humours in the blood, I might adduce the prickly heat, which is produced in sanguine choleric temperaments, by the too great transudation of sanguineous serum, perspirable matter through the pores of the skin, especially under the circumstances of frequent temulence,

gluttony, long costiveness, great external heat, sudden cold, &c., which excite the distemper in such constitutions. Strumous persons, who have free open bowels, and regular exercise and diet, never suffer by prickly heat. In phlegmatic temperaments, with gross obesity, generally suffer by pruriginous pimples, of a white or red colour, of a vesicular appearance, with an effusion of lymph in the cutaneous papulæ, which appear on the inside of the thighs, about the labia pudenda, breasts, armpits, trunk of the body, anus, scrotum, &c. The measles, on the other hand, proceed from a general inflammation of the skin and cellular membrane, produced by the external natural causes of cold and heat, too suddenly distending the capillary vessels of the integuments, independent of any particular acrimony of the fluids, and inflame them with a consequent disease of the whole structure. The smallpox, too, depend on the same commotion of the fluids, obstruction of the pores of the skin, acrimony of the humours, together with all the common causes of measles, in sanguine temperaments, and robust habits of body. The very circumstances of hot alexipharmics and cordials increasing the natural pox eruption in a tenfold degree, and of bleeding and purging removing them immediately, argue powerfully in favour of my doctrine, for these teach us, that the disease is an inflammation of the skin and cellular membrane, produced by heat and heterogeneous particles of matter adhering in these structures, which in certain seasons of the year, and in peculiar constitutions, create pustules of the skin. The violence of the excitement, in cases of inflammation of some of the internal organs, often induces the same affection of the skin, as we frequently observe in vernal fevers, &c. In very hot climates, where the inhabitants use great quantities of spices, and peppers, and where they perspire very profusely, ringworms, and innumerable diseases of the skin, universally

prevail. I have seen persons whose bodies became dry and husky; no moisture could be procured; even in the East Indies, in the warmest of the seasons, their skins became glossy, puffy, purple, and semiputrid; appeared as if they were in danger every moment of undergoing gangrene or sphacelus of the whole body; they were very feverish, and the fever was hectic, accompanied with general pains, weakness, languor, loss of appetite, wasting of the flesh, and when any portion of the skin was peeled off, the denuded parts would not heal, but degenerated into foul ichorous ulcerations. I have seen cases of this kind in America, and it is certainly a strange and dangerous state of the body. In such cases, I believe that the constitution is generally diseased with a peculiarly singular state of the whole solids and fluids, independent of any particular vitiation of the blood. But the acrid matter I now speak of, is daily taken into, or is produced in the body, either existing first in the stomach, intestines, or lungs, and at last is carried thence into the blood. Now if the weather is cold, that acrid matter either does not exist in these canals, or is carried off by urine; but in hot weather the ammoniacal and bilious parts of the urine lodges in the body, or pass through the pores of the skin, leaving the intestines dry, and loaded with acrid and hard excrements. The acrimonies of spirits, of bile, of putrid excrements in the bowels, of acescent fermentation of the ingestions, of diseased secretions of the gastric and pancreatic juices, of much mercury, of arsenic, of the venereal virus, of the matter of scabs, of the herbs, of blistering powers, externally and internally, are evident to all men of common observation; and if any humours, or particles in the human fluids, should induce similar inflammations of the fine textures and structures of the skin, cellular, mucous, or serous membranes, or fibrous, vascular, and nervous parts, we must expect similar effects and

affections in the body. If the hot burning winds and sands, noxious vapours, cold damps, &c., produce carbuncles, buboes, furuncles, natural pox, &c., in Egypt and India, why should not the same causes produce the same diseases in any land? Heats and colds, however, are the mighty causes of disorders of the functions of such parts and structures. Cholera morbus is an example of such a derangement, wherein the external cold, obstructing the perspiration, induces inflammation of the villous coat of the intestines, predisposed to such an affection by acrid matter in their cavity.

If these eruptive inflammations are communicated from person to person, independent of the nature and influence of the seasons and atmosphere, I never have been able to discover the truth of such an assertion. On the contrary, I have every evidence and testimony to convince me of the very contrary opinion, viz., that they all originate in the seasons, weather, and atmosphere, independent of the existence of what physicians have imagined to exist, “a contagion.” I can produce, from history, facts that will prove the existence and prevalence of natural pox, in the uttermost boundaries of Europe, Asia, Africa, and America, at the same given time, when there could have been no communication by ships, winds, or travellers, whatever, to carry the “specific contagion” of the distemper, to those distant regions of the earth, in the twinkling of an eye, or with the rapidity of thought, necessary to cause it to appear universally diffused, at the same instant of time. The impossibility of this transmission of the contagion, defeats the idea of its being contagious, and makes me believe that the peculiar constitution of the years and seasons, with certain states, changes, and conditions of the weather and atmosphere, generate the disease. If we can prove that the same causes exist in certain given years, in Great Britain, that exist in

India, to produce these eruptive inflammations, why should the world, in their senses, deny their origin in those kinds of seasons and years, as the natural effects of such causes on the human machine or constitution, in Britain as well as in India? As for communicating the smallpox by inoculation, I would only desire the advocates for contagion to carry the purulent matter of their pustules to the top of the Andes, and to inoculate the inhabitants of those lofty regions, and they will soon be convinced, that all the powers of man would be insufficient to make the distemper prevail among them; a sore on the bodies, like the kine pock, would only be produced, even when the inhabitants of the low shores of the seas are infested with them. I know that natural pox cannot be made to prevail by introducing them into a country, and by inoculating the inhabitants with them, unless the seasons or period of years be constituted suitably to generate them. As for the discovery of Jenner, it only exists in the brains of its advocates, and the whole proposed antidote of the cow-pock is a mere imposition on the understandings and senses of the world! Because, wherever the natural pox universally prevail, they attack those that were, and those that were not vaccinated with the kine pock indiscriminately, without distinction of the antidote, age, sex, or condition. Witness London in 1816; witness the southern states; see the many cases which have occurred in New-York, in persons who had been previously vaccinated to perfection, &c. &c.

THE SYMPTOMS OF THE MEASLES.

This species of eruptive inflammation is attended with a violent acute fever, cough, hoarseness, difficulty of breathing, sense of weight in the head, sneezing, nausea and vomiting, dulness of the eyes, drowsiness, profusion of tears,

running of the nose, itching of the face, which continue for three or four days, and produce an eruption of red points like fleabites, in clusters on the face, neck, breast, and successively on the whole body. These little circular discolourations are not visibly raised into pimples, but are sometimes rough to the touch. The febrile symptoms of heat, thirst, anxiety, pains of the head, back, loins, and limbs, strong frequent pulse, and dryness of the skin, do not cease on the appearance of the eruption, but rather increase, when pneumonia, congestion of the brain, oppression of the heart, diarrhœa, &c., supervene, and run to a fatal termination. If no deep seated inflammation of the vital organs exist in the body, during the presence of the eruption, the eruption of papulæ or red points disappear in a mealy desquamation of the scurf-skin. The disease, however, seldom goes off in simple desquamation of the cuticle. The worst symptoms of typhus often supervene, such as livid spots on the body, gangrene of the fauces, hot and parched tongue, hurried and laborious breathing, flushed countenance, an unusually hard pulse, a high burning fever, stupor or delirium, great pains in the head, eyes and chest, great prostration of strength, small, rapid, and intermitting pulse, involuntary discharges of the excrements, &c., which soon destroy the patient, if urgent and timely remedies are not employed to prevent them.

THE SYMPTOMS OF SCARLET FEVER.

This disease is the same as measles and angina in its nature and cure ; it is merely a general inflammatory efflorescence of scarlet stains, or patches of red points, coalescing and covering the whole body. The rash often appears on the surface of the mouth, fauces, nostrils, and eyes, becoming li-

vid in dangerous cases. It comes on in the same way as the measles, with inflammatory fever, swelling of the face, and red rash of a vivid colour, like a boiled lobster, about the third or fourth day, which in the course of three days fall off in branny scales. But symptoms of malignant angina, &c., as lassitude, dejection of spirits, pains in the head, straitness of the muscles of the neck and shoulders, rigour, horror, congestive typhus, difficulty of deglutition, loss of appetite, nausea and vomiting, hurried respiration, frequent sighs, hot burning breath, great thirst, dry hot skin, pungent pains, quick, weak, or small hard pulse, stiffness in the limbs, disturbed sleep, loathing of food, scanty urine, dropsy of the flesh, chest, or belly, purple, or ash coloured, or black specks and spots in the fauces, delirium or stupor, glandular swellings, stridulous voice, pains in the ears, deafness, acrid coryza, running from the ears, colliquative diarrhoea, dull suffused redness of the eyes, purple spots on the whole body, hemorrhages from the nostrils, mouth, bowels, lungs, &c., and gangrene, which soon terminate in the death of the patient, quickly supervene.

The prickly heat, of the rosy and purple hues, the nettle-rash, the specks and patches of the blood red or purple colour, the vivid fiery redness, or vermilion efflorescence appearing in patches on the arms, neck, breast, legs, &c., from friction, fever, solar heat, abrasion, &c., the miliary vesicles, the heat spots, the drunken pimples, &c., are all of the same kind, and if we should trace their minute varieties in different constitutions, different climates, and different degrees of violence, occurring in the several seasons, we should find them running into pustules, vesicles, pimples, and ulcers of the highest order, as smallpox, erysipelas, pemphigus, petechiæ, vibices, furuncles, &c.

THE SYMPTOMS OF ERYSIPELAS.

Erysipelatous inflammations mostly affect the head, in their phlegmonous form, occur most frequently in autumn, generally exist in sanguine, choleric temperaments, plethoric and costive habits, arise from long costiveness, heats and colds, fermented liquors, suppressed evacuations, acrid bile, &c. in the alimentary canal, and appear under four forms, viz. the phlegmonous, the œdematous, gangrenous, and the erratic. Erysipelas of the face, commonly approaches with rigours, flushes, quick, hard, strong, or small frequent pulse, delirium or stupor, nausea and vomiting, dull heavy pains of the head, great depression of spirits and strength, which continue for three or four days, before some particular part of the face, &c. become red, swollen and painful, accompanied with a pungent acrid heat of the tumour, which enlarges and disorganizes the skin, producing vesicles of a dark or gangrenous appearance, or the tumour subsides in a desquamation of the cuticle. Very often, however, erysipelas gangrenosum, commences in the usual way, with tumour, or vesications of a dark appearance, that break, and emit thin, clear lymph, and are transformed into black scabs, like confluent smallpox, on the face, neck, shoulders, breast, &c., and prove fatal in four or five days, in weakly, spare constitutions. Sometimes the affected parts are dark red, covered with gangrenous phlyctanæ, or vesicles with a livid base, which terminate in gangrenous ulcerations. Even when it terminates favourably, suppuration and gangrene of the muscles, tendons, and cellular substance, often happen, producing ill-conditioned ulcers, sinuses and caverns, which pour out foul matter, and

sloughs of the mortified flesh. These vesicles degenerate into gangrenous ulcers, form into scabby or ichorous pustules, or terminate immediately in gangrene. The vesications sometimes break out, accompanied with great fever, and sickness at stomach, run into scabs, pour out ichor and disappear, and a new crop breaks out and runs the same course, and so continue to recur frequently for many months or years. There is a gangrenous kind which often attacks sickly, scrofulous children, immediately after birth, and carries them off in one or two days. All parts of their bodies excoriated, become gangrenous, and gangrenous vesicles and spots pervade the whole body.

THE PROGNOSTICATION OF THE EVENTS OF ERUPTIVE INFLAMMATIONS.

When the inflammatory fever runs high, and produces confluent clusters of the pustules, there is considerable danger of gangrene, or effusion in the brain, or suppuration of some of the important viscera. Sudden disappearance of the eruption, subsidence of the swelling of the face and extremities, suppression of saliva, great prostration of strength, general paleness of the skin, great anxiety, oppression in the chest, fainting, convulsions, stupor or delirium, severe inflammations of the vital organs, colliquative diarrhœa, vast difficulty of respiration, scrofulous ulcerations, and caries of the bones, gangrenous spots on the pustular surface, &c., are deadly signs. But if the fever begin to go off after the maturation of the distinct and few pustules, and all the other symptoms begin to subside after the third or fourth day of the distemper, we may pronounce the return of health and sanity. Similar signs may appear in the other eruptions.

THE CURATION OF ERUPTIVE INFLAMMATIONS.

The treatment of these eruptive inflammations is to be conducted on the same method that we have instituted for all other modifications and complications of these local afflictions, viz., with copious and repeated venesections, purgative medicines, cooling drinks, &c. And like them too bleeding ought to be practised at the first accession of the ardent fever, before a single pustule, pimple, patch of redness, or vesicle appears, and the distempers will be immediately arrested in their progress, and brought to a speedy and happy termination, without going through the tedious, painful, and mortal process of an eruption, maturation, suppuration, incrustation, cicatrization, or ulceration of the pustules on the surface of the body, or of a natural subsidence of the fever or desquamation of the red rashes, which are attended with an inflammatory fever of the worst gradation.

When I am called to attend a person in the smallpox, previous to the fifth day of the disease, I immediately begin to reduce the inflammation by bleeding and purging. "*Mittatur sanguis quoque die ante tertium inclusive,*" blood may be let every day till the third inclusively, was the great maxim of the good Dr. Thomas Sydenham; indeed Peter Bayrus, of Turin, in 1480, said, that the patient may be bled every day to the twenty-first. In this disease, says some author, I bleed in large quantities, keeping the patient cool, and constantly plying him with cool tankards, or some diluting draughts, and giving every evening an ounce of *diacodium*. I give sweet mercury on the seventh (he should have said the first hour) day, and cinnabar of

antimony, half a scruple of each, made into a bolus. Lieutaud, Sydenham, Cullen, Thomas, Philip, and many others, have recommended a very insufficient practice in cases of natural pox. They bled and purged too little and too late, purged only in the latter end or course of the disease, gave narcotics, pectorals, emulsions, antimonials, hot spiritous drinks, sudorifics, emetics, tonics, opiates, and laxatives, in the secondary stage, and if all these remedies did no good, in a young robust person, accustomed to full living, and of a plethoric habit, says Cullen, it will be proper to let some blood. How indefinite is this mode of expression. If the fever is still considerable, with a full hard pulse, in adult persons, after the secondary symptoms have come on, (about the eighth day,) the case was then to be treated as an inflammatory affection, by bleeding and purging, which, in my opinion, would be inefficacious, because employed too late in the disease. But I would advise all practitioners, who wish to succeed in the treatment of the natural pox, and desire to restore their patients, to employ as large and repeated missions of blood as will be sufficient to subdue all the febrile symptoms present in the body, and to keep up daily discharges from the bowels, by a good purge, of the submuriate of mercury, epsom salts, rhubarb, &c., to give cooling drinks of rice, barley, oats, tapioca, Indian arrow root, or flour water, acidulated with lemons, &c., whereby the pustules will either never appear, or be nipped in the bud, and the patient restored to health and sanity of body and mind.

The measles, the scarlet, miliary, vesicular, &c. fevers, corysipelas, and other eruptive inflammations, all require the same simple method of treatment, somewhat varied, according to the age, sex, constitution, period of the disease, and previous habits.

THE SYMPTOMS OF INFLAMMATION OF THE JOINTS, OR
RHEUMATISM.

Having described the inflammations of all the internal organs of the body, we now come to mention the compound inflammations of the principal external parts, where these local affections most commonly exist, in all cases of rheumatic and arthritic disorders of the joints. In such affections, I am of the opinion, that the inflammation occupies the cellular membranes, synovial bags and glands, tendinous aponeuroses of the muscles, ligaments, periostium, absorbents, nerves, &c., of the principal joints of the feet, ancles, knees, elbows, shoulders, back bone, hips, and neck, which are most subject to arthritic and rheumatic affections. Acute inflammations of these structures, usually manifest their presence and seat, by the common symptoms of all other inflammatory fevers, as lassitude and rigours, chilliness succeeded with great heat, much thirst, anxiety and restlessness, hardness, fulness, quickness, or frequency of the pulse, sense of weight, and coldness of the extremities, great jactitation, and obstinate costiveness ; in two or three days the tumour and tension of the joints appear, the pains become more acute, moving from joint to joint, leaving redness, swelling, and tenderness ; and high coloured scanty urine, dryness or moistness of the skin, and whiteness of the tongue, exist, and produce a violent fever, of any order or species, according to the season of the year, and the nature of the climate. Chronic inflammations are attended with hectic fever, more or less urgent, pains in the head, neck, back bone, shoulders, elbows, wrists, hips, knees, ancles, or feet, loss of appetite, &c., which show a great de-

gree of inflammation in the vascular membranes, synovial structures, aponeurosis, periostial surfaces, &c., that induce anchyloses, or permanent rigidity, and lameness of the limbs, concretions, serous and gelatinous effusions, adhesions, incrassations of the articular membranes, dislocations, distortions, ulcerations, tumours of various kinds, collections of water or blood within the capsular ligaments, abscesses, gangrene, long pains in the ancles, knees, back, loins, elbows, shoulders, head, hips, and large vesications, &c.

THE CURATION OF INFLAMMATION OF THE JOINTS, OR RHEUMATISM.

The indications of cure in all cases of inflammation of the joints, are to be fulfilled by general and copious bleeding and purging, sweating, and mercurial frictions. General bleeding is to be practised in all cases where the vascular action is strong, the heat great, the constitution robust, the patient young, or not far advanced in years. It should be repeated too, according to the violence of the symptoms, firmness of the coagulum, and the buffy appearance of the blood. The purgatives may be castor oil, submuriate of mercury, the sulphate of magnesia and of soda, the tartrate of potass, jalap, rhubarb, or aloes, and the sudorifics may be warm bath, the submuriate of mercury and opium, and plenty of diluent drinks of farinaceous decoctions.

THE SYMPTOMS OF INFLAMMATION OF THE LIGAMENTS, JOINTS, AND MEMBRANES OF THE FEET, OR GOUT.

The gout and the rheumatism are nearly allied, if not the same disease. When we compare the symptoms of these

two diseases, we find little or no essential difference in them, for the gout exhibits the symptoms of indigestion, languor, lassitude, torpor, and dejection of spirits, unusual coldness and numbness of the extremities, alternating with formication, frequent cramps, uncommon turgescence of the veins of the legs; the paroxysm most frequently returns about two o'clock in the morning, with excruciating pain in the articulations of the great toe, heel, calf, or ancle, succeeded by rigour, horror, and fever; the pain increases in violence, and attains its height towards the following evening, and gradually ceases; a general moisture breaks out on the skin, and the patient, freed of his torment, falls into a sound sleep; upon waking, he finds the affected parts swollen and inflamed, and in several succeeding evenings, the pain and fever return, and continue with greater or less violence during the ensuing nights, and go off towards the break of day. Sometimes pain occupies the stomach, the lungs, head, bowels, back, and loins, attended with nausea, vomiting, eructations, flatulence, sadness, hypochondriasis, indigestion, obstinate costiveness or looseness of the bowels, palpitation of the heart, fainting, great difficulty of breathing, headach, giddiness, apoplectic and paralytic affections, &c., which clearly manifest the same kind of an affection of the joints, probably accompanied with a deposition of more concretive matter, or calcareous or cretaceous depositions in the joints, a greater constitutional disorder, more generally with visceral diseases, attacking the important viscera of the head, chest, abdomen and feet, the urine is red and scanty, and deposits a copious sandy sediment. It comes on in the end of winter, when all other defluations of the joints occur, and goes off in the warm months of summer, if it does not vanish in fourteen days, usually required for the spontaneous subsidence of a common case of gout. It attacks mostly the rich and high livers, and swollen drunkards.

THE CURATION OF INFLAMMATION OF THE LIGAMENTS,
JOINTS, AND MEMBRANES OF THE FEET, OR GOUT.

In all former ages, gout has been considered incurable by any remedies ever known to men, and none seem to have healed gout on the same antiphlogistic plan of cure that is employed in other inflammations of similar structures. "There are three ways proposed," says Dr. Sydenham, "whereby we may eject the containing cause of the gout, viz., bleeding, purging, and sweating, and none of these methods will ever perform the business." But I have learned by repeated experience, that the inflammatory symptoms are not only relieved, but altogether removed by these powerful remedies. Indeed Boerhaave, Vanswieten, Macbride, Liger, Cullen, Cadogan, Darwin, Lieutaud, and others, have recommended venesections for gout, in all young robust persons, and I know "that blood-letting, during the paroxysm, has sometimes dispelled pain from the affected foot, like a charm," said a great practitioner, yet strange to tell, he condemned the use of the lancet as a dangerous method of cure. A secret remedy, lately introduced into practice in England, prepared at Paris, and sold in small bottles containing two drachms, has gained great reputation in curing the paroxysms of gout. It is called, "*Eau Medicinale D'Huson*," which is supposed to be composed of opium and veratrum, or gratiola, or elaterium, and is only designed to remove the paroxysm; but it is far more desirable to cure the disease wholly, and restore our patients to perfect health, securing them from all future attacks of the inflammation. I have always employed the same remedies as I used in cases of acute and subacute rheumatisms, and other inflammations of the ligaments, tendons, and membranes of

the joints, where there is as great a deposition of extraneous or calcareous matter, as in cases of rheumatism, viz., bleeding, purging, sweating, mercurial frictions, alterants, dieting, and bland nutrients, carried to a proper extent, and employed in due season. Some recommend blistering the parts, the application of moxa, oiled silk, cold water, narcotics, cataplasms, fomentations, burdock leaves, the use of antimonials, opiates, &c. ; but the two great indications of cure are to remove the present inflammation of the parts, and to prevent a future visitation of the same affection, by bleeding, purging, sweating, strengthening, dieting, and exercising, to remove the paroxysm, and to do away the predisposition to the disease.

THE SYMPTOMS OF INFLAMMATION OF THE CELLULAR MEMBRANE OF THE HIP AND WHOLE LEG, MOST FREQUENTLY HAPPENING TO PUERPERAL WOMEN, OR PHLEGMASIA DOLENS SCRIPTORUM.

Doubtless a great similarity exists between the *phlegmasia dolens puerperarum*, or painful intumescent inflammatory affection of the leg, in lying-in women, and gout. Former ages seem to have considered anasarca, phlegmon, erysipelas, abscess, rheumatism, peritonitis, gout, puerperal fever, and elephantiasis, the same as *phlegmasia dolens*, or have confounded all together. The symptoms of the latter disease, which are a firm, glossy, warm, tense, elastic, painful, and sudden swelling, of a pale white colour, attacking the hypogastric region, the loins, the nates, the groin, the labia pudendi, the thigh, leg, and foot of a woman, some days after delivery, or miscarriage in the advanced period of pregnancy, demonstrate its seat in the cellular membrane,

and lymphatic vessels of the leg, and its nature to be inflammation, in consequence of an obstruction of these vessels and the veins, whereby the accumulation of acrimonious humours, or common lymph and blood in them, and an effusion of serous humours in the interstices of the parts takes place, to produce inflammation of the whole contexture of the vessels and membranes of the leg, primarily induced by an impediment or obstruction of the blood, and lymphatic humours, in their course towards the centre of circulation. The only difference of *phlegmasia dolens*, is in its location in one leg, for the whole leg, from the belly, or hip, or groin, down to the foot, is uniformly and universally swollen, without being diminished by a horizontal position, as œdematous tumours generally subside on such a posture. The *phlegmasia dolens* generally runs a course of four, five, or eight days, when all the fever, tumour, heat, tension, weight, tenderness, and pain, gradually abate, and leave the limb stiff, heavy, benumbed, weak, and beset with some inequalities like glandular indurations, and often the glands of the thigh and leg are tender, and painful, and enlarged to the touch, and the lymphatic vessels are enlarged throughout the limb. I have often attended young women, with painful swellings of the feet, which yielded to nothing but country air, and exercise, and bathing the feet in cold marine water, because such painful swellings seemed to depend on a weakly, peculiar constitution, a sedentary life, or constant sitting, whence acrimonious depositions, or inflammatory affections of the absorbents and cellular membrane, tendonous aponeuroses of muscles, nerves, &c. proceed. An anasarca of the lower extremity is attended with a degree of inflammation of the integuments, independent of any particular acrimony of the serous fluid, diffused through the cellular texture, merely obstructing the return of the blood in the veins, and of the lymph in the absorbents, which

always produce dropsical effusions in the cellular textures. But these stagnations of bland serum, produce no pains nor fevers, as rheumatism, and gout, and phlegmasia dolens do ; therefore, I am inclined to think, that some extraneous and acrimonious matter is deposited during the inflammatory process, into the joints, and presses upon the nerves, or injures them, or peradventure the small nerves and absorbents themselves are inflamed, as well as the aponeuroses and synovial bags, ligaments, bones, &c. of the joints. Rheumatism is the purest inflammation of these parts ; the *phlegmasia dolens* is a similar affection of the absorbents, and the gout is a concretionary affection of the inflammatory order, of similar parts of the toes, heels, calves of the legs, ankles, wrists, elbows, and knees, which leave stony concretions about the ligaments, &c., of the joints.

THE CURATION OF INFLAMMATION OF THE CELLULAR
MEMBRANE OF THE HIP AND WHOLE LEG, OR PHLEG-
MASIA DOLENS SCRIPTORUM.

This inflammation of the absorbent lymphatics of the membranous expansions of the pelvis, groin, hip and leg, is to be cured by the same remedies we employ in cases of inflammation of the same structures of other parts, viz., bleeding, purging, sweating by warm bath, mercurial discutients and alterants, which must be judiciously administered and applied, according to the nature, condition, and other circumstances of the constitution. If the patient is strong and healthy, without signs of extreme debility, by bleeding or other evacuations, I generally draw a pound of blood from the arm, give a powerful purge of the submuriate of mercury, put the patient into a warm bath, anoint

the whole limb with mercurial ointment, prescribe diuretic draughts and diluent drinks, camphire, and opiate mixtures to procure sleep and sweat, and repeat them according to circumstances, until all the fluid of the swollen limb is absorbed, and the inflammation thereby produced, wholly subdued. When the disease is accompanied with phlegmon, erysipelas, anasarca, inflammation of the caul, lungs, womb, &c., attended with vehement fever, high bleeding in all strong persons, and small repeated bleeding and purging in weakly persons, are necessary to remove the local inflammations of such important parts. I have often seen mercurial frictions and purges alone, cure the disease in the course of three and four days. But in all cases, where high excitement exists, I do not trust to these without the use of the lancet, to fulfil the indications of cure in the shortest space of time.

THE SYMPTOMS OF SCROFULOUS INFLAMMATION OF THE JOINTS OF THE KNEES, OR WHITE SWELLING OF AUTHORS.

Scrofulous inflammation of the knee joint, begins with deep seated pain in the knee, commonly on the inside of the patella, increased greatly by pressure, unattended by any external swelling or discolouration. It commences in some very suddenly and violently, but in others it approaches insidiously and slowly, and proceeds gradually to a fatal end. The swelling gradually increases in size and pain, and a fluctuation is perceptible within the enlarged synovial bags. After many months of grievous suffering, it at length bursts, and discharges at several openings, gleety, glutinous, limphy and whitish or sanious matter or ichor, and fistulous ulceration of the parts continues for many months or

years, produces hectic fever, caries of the bones, ankylosis, gangrene or sphacelus of the ligaments, &c., which generally terminate in death. Cartilaginous and fungous substances are often found in the cavities of the joints, commonly within the capsular ligaments.

THE CURATION OF SCROFULOUS INFLAMMATION OF THE JOINTS OF THE KNEES, OR WHITE SWELLING OF AUTHORS.

In all cases of white swelling of the knee-joints, bleeding, purging, warm bathing, mercurial frictions and purges, diuretic remedies, and refrigerant drinks, are absolutely necessary to reduce the deep seated inflammation, especially in all persons of a middling strength and corporation. In weakly, consumptive, scrofulous habits, I would bleed and purge sparingly, employ mercurial purges and frictions with more vigour, assuage the hectic fever with digitalis, diuretics, alterants, corroborative nutrients, refrigerant beverages, application of leeches, and cooling lotions to the parts affected. Physicians have, in addition to these remedies, recommended blisters and issues to draw off the matter about the joints, but this is an uncertain and a tedious plan of treatment; I would rather recommend sea bathing, sea air, &c., in addition to what I have proposed.

THE SYMPTOMS OF SCROFULOUS INFLAMMATION OF THE HIP JOINTS.

Inflammation of the hip joints generally commences with a degree of lameness scarcely observed, often ascribed to

indolence, or to indulgence of an awkward habit, in a longer or shorter time pains are felt in the hip, thigh, knees or leg ; the affected thigh and leg seem lessened in circumference, the whole limb evidently becomes elongated, so that in standing erect, and extending the sound limb, the diseased one is separated from the body, the knee being bent at a considerable angle, the nates appear flattened, the pains in the parts are obtuse, often acute and deep seated, and increased on pressing the hip joint. Sometimes the pain is only felt in the knee, is so excruciating that it extorts screams of agony from the patient, and the faculty of walking is lost. In a recumbent posture the diseased thigh is bent forward, and every attempt to alter its position is attended with pain, as happens in dislocation of the joint, downwards. The joint is tender to the touch, the lymphatic glands of the groin are enlarged, and a slow hectic fever, and great prostration supervene.

The symptoms having continued a longer or shorter time, the limb at last shortens, and suppuration is announced by that circumstance; the swelling and tenderness increase, and the abscess at length breaks, and emits curdly or ichorous matter, and degenerates into a deadly ulceration, attended with the most violent symptoms, hectic fever, colliquative sweats and stools, languor, loss of appetite, emaciation, and ends in death. When a recovery takes place after ulceration, an ankylosis is the consequence, and a permanent shortness of the limb, as in case of dislocation of the joint bone, upwards and backwards, which renders the patient lame for life. There is a greater number of persons with shortened legs occasioned by it in New-York, than I ever saw in any city of Europe. I see, on an average, twelve lame persons every day on the streets, and in practice.

THE CURATION OF SCROFULOUS INFLAMMATION OF THE
HIP JOINTS.

Copious bleeding, purging, sweating, warm bathing, blistering, and cutting into the joints with a lancet, are the great remedies of the dangerous and insidious inflammation of the hip joint, according to the method we follow in all fevers and inflammations. In a case of inflammation of the hip joint, where the limb was lengthened an inch and a half, I made an incision through all the integuments, &c., into the joint itself, whence an immense quantity of purulent, sanious, watery and serous matter emanated, and I kept a conula in the wound to prevent it from closing till all the matter was evacuated and drained off. The head of the thigh bone returned into its socket, and the leg became as strong and as sound as the other, that was not diseased, in a short space of time. Caustic issues, blisters, and cold applications, have been recommended in cases of the hip affection, but I never found any benefit derived from them in due time to save the use of the limb, or life; I, therefore, have deserted the old method of practice, and have followed the dictates of my own judgment, by bleeding, purging, sweating and puncturing the joint early, to preserve the use of the limb. The constitution should be supported by nutrients and corroborants of the first qualities and virtues, such as sago, Indian arrow root, tapioca, flummery, ptisan, rice, custards, light puddings, and gentian and columba roots, cinchona, cusporia, cascarilla barks, taking care neither to increase the hectic fever, nor to diminish the appetite.

THE SYMPTOMS OF SCROFULOUS INFLAMMATION OF THE ANKLE JOINTS.

This scrofulous affection is a deep seated local inflammation of the ankle joint, attended with deep seated pain, as if in the periostium of the bone, inability to walk on the foot, hectic fever, with all its distressing symptoms, tumour of the joint, generally within the capsular ligament. At first the swelling is not discoloured, but at length the external integuments also swell, and become red and glossy; ichorous matter is collected in the cellular membrane, which tumour gradually increases, produces a gangrenous discolouration of the skin, bursts, and discharges a watery or sanious humour, without diminishing the internal tumour. The whole integuments thicken, and become callous or sarcomatous, and tender. Sometimes the internal tumours break, and turn into long and tedious ulcers, which unhinge the joint, and produce permanent distortions of the feet, or heal up in process of time, and leave only a weak joint and some scars. I have met with many such cases in America, which I opened to the bone, and evacuated all the filthy matter, and hastened the process of ulceration and of healing. Encysted scrofulous tumours are often found in the cellular membrane, mucous bags, within the capsular ligaments, and sheaths of tendons, of the elbows, spine, neck, &c., which slowly enlarge, produce varicose tumours of the veins of the parts, slight lividness of the skin, and terminate in ulcers of the parts, which discharge honey, cheesy, pappy and fatty like matter, or curdly substance, according to the nature of the contained matter.

THE CURATION OF SCROFULOUS INFLAMMATION OF THE ANKLE JOINTS.

In all cases of high inflammation, of every description, bleeding and purging are the great general remedies. In addition to these, I employ, in cases of scrofulous affections of the ankle joints, mercurial frictions, early incisions, alterant medicines, refrigerant pediluvium, riding in the pure air, turnip and sugar of lead cataplasms, &c, which might either reduce the local inflammation, pain and swelling, or mature the tumour, evacuate the contained matter, and dispose the ulcerations to heal.

THE SYMPTOMS OF SCROFULOUS INFLAMMATION OF THE PROAS MUSCLES OF THE LOINS.

Inflammation of the cellular membrane of these muscles, very often exists, without the physician knowing the nature or seat of the affection; it approaches very insidiously for the most part, but sometimes seizes the person suddenly, with violent pain and fever. It most commonly creeps on with an unaccountable sense of weakness, and pain across the loins, which continue for a longer or shorter time, and suffer a considerable change. The pain at length abates, changes its seat from the loins to the thighs and hips, lancinates, and follows the course of the anterior crural, or sciatic nerves; the glands of the groin enlarge, and one or both extremities lose their power. A soft fluctuating tumour then appears, unaccompanied with pain, or any dis-

colouration of the integuments, immediately under Poupart's ligament, or by the verge of the anus, under the glutei muscles, which constantly increases to a great size, often extending a considerable way down, under the sheath of the fascial aponeuroses. This tumour at last bursts, ulceration ensues, a severe hectic fever arises, and the patient dies in extreme emaciation. This local affection often arises from cold applied after severe exercise, or injuries done to the back and loins, by twists and blows in pregnancies, or scrofulous habits.

Small abscesses of the muscles of the loins, may continue long under the appearance of lumbago, ischias, rheumatism, or hip disease, and in the course of many years proves fatal. The pains in ischias are felt within the pelvis, about the os coccygis, and heads of the thigh bones, preventing the patient from standing or walking erect, and with an increase of it by straining at stool.

THE CURATION OF SCROFULOUS INFLAMMATION OF THE PROAS MUSCLES OF THE LOINS.

At the beginning of inflammation of the cellular membrane of the proas muscles of the loins, bleeding, purging, warm bathing, &c., should be employed. But in the advanced stage of the disease, when an abscess exists in the membrane, a valvular opening should be made by means of a lancet, or a lancet pointed trochar plunged into the tumour, after it appears externally, under Poupart's ligament, in the groin, or beneath the femoral fascia, descending sometimes as far as the knee, or in the vicinity of the anus, within the pelvis, or about the loins and sacrum, giving rise to a swelling in the place where abscesses of the hip joint

appear, or on the side of the vertebræ of the loins. It is often prudent, however, in all cases of great sympathetic fever, and emaciation, to defer an operation, and attempt to support the strength, leaving the bursting of the tumour to nature; for sometimes the discharges would be so profuse, the sweats so copious, the constitutional disturbance so great, that an unremitting diarrhœa, delirium, or extreme exhaustion would supervene, and close the dreadful scene. Mr. Abernathey recommends the tumour to be opened, the matter to be discharged, and the wound immediately closed and healed, and when the matter again collects, he advises the tumour to be repeatedly punctured, and healed in the same manner, till a cure is completed.

THE SYMPTOMS OF SCROFULOUS INFLAMMATION OF THE SPINE, CALLED SPINA BIFIDA, AND CARIES OF THE SPINE.

A great languor and lassitude, fatigue upon the slightest exertion, aversion or an inability to motion, the patient frequently trips and stumbles without any apparent cause, as he attempts to walk his legs involuntarily cross each other, and he is thrown to the ground or floor, in an erect position the knees bend under him, an obtuse distressing pain is felt in the back, and great weakness exists in the loins, one or two of the spinal vertebræ project beyond the rest; at length the extremities lose their natural sensibility, and become quite palsied, &c., when the disease has long remained to molest the miserable sufferer. A hectic fever accompanies this affection from its very beginning, attended with all its usual constituents, of small quick pulse, frequent exacerbations of heat, chilliness, loss of appetite, wasting of the flesh, colliquative sweats and diarrhœa, &c. In chil-

dren, a swelling of the belly also attends the disease, in its course, having the appearance of dropsy, or some tensor tumour. It proceeds from falls, and cold applied to the bodies of persons having a scrofulous habit. This disease produces a caries of the spine, collections of fluid about the vertebræ, protuberances of them, lameness of the back, loins, and limbs, distortions of the spine, ulcerations, gangrene, and death.

THE CURATION OF SCROFULOUS INFLAMMATION OF THE SPINE, CALLED SPINA BIFIDA, AND CARIES OF THE SPINE.

Where tumours appear on the back, about the spine, of the encysted kind, I have been in the practice of opening them, to evacuate the fluid, and of healing up the wound, and if it should again collect, I repeat the operation. I generally recommend sea bathing, or country air, milk diet, mercurial alterants, a sea voyage, tonic bitters, good nutrients, &c. The spines of children often become carious in this disease, and distorted in a most distressing manner; the lower limbs become palsied, and difficulty of respiration, indigestion, pains, sense of lightness of the stomach, obstinate constipations or purgings, involuntary evacuations of urine and feces, &c., supervene. Mr. Pott has recommended perpetual issues in each side of the spinous process of the carious or affected vertebræ, by means of caustics and peas, and kept open till a cure is completed; but I am impelled to say, that I have not succeeded with those dreadful issues, and have always found mercurial purges, alterants and frictions, sea air, nutritious diet, diuretics, digitalis, &c., to allay the hectic fever; and sea bath, care and ease, barks, bitters, &c., are best to regenerate the bones, ligaments, cellu-

lar membrane, and to prevent future decay, and formation of matter in or about the spine.

THE SYMPTOMS OF SCROFULOUS SUBACUTE INFLAMMATION OF THE LYMPHATIC GLANDS, CAPILLARY ARTERIES, CELLULAR TEXTURE, JOINTS, &c. SEROUS MEMBRANES, ABSORBENTS, VISCERA, AND FIBROUS STRUCTURES IN CHILDREN.

The inflammatory affection I am about to describe, arises generally in scrofulous children, from colds, venereal virus, dentition, impure air, want of due exercise, deficiency of food, disorders of the head and bowels, bad food, sleeping in cold damp rooms, between the sixth month and second year of their age. It usually begins with weakness, fretfulness, restlessness, flushed and swollen face, softness of the flesh, aversion to motion, tumour of the head, belly, and joints; the wrists and ankles first enlarge, then the bones swell and soften, the pulse becomes quick and feeble, the digestion and appetite are bad, dentition generally difficult and late, the teeth decay and fall out, and the whole bones of the legs, ribs, and spine grow incurved. A looseness of the belly, and a hectic fever attend this disease from the very beginning. On dissecting the bodies of those who have died of this species of disorder, commonly called *rachitis*, we find the bones soft and flexible, traces of inflammation in the lungs, effusions in the head, the bronchial and mesenteric glands greatly swollen and enlarged, or suppurated, the liver and spleen flaccid or enlarged, the intestines pale and whitish, dropsies of the cavities of the chest, belly, and joints, abscesses, &c., which show the universality of the affection.

The highest degree of *rachitis* exist among the Cretins, who inhabit the low valleys of Switzerland, bordering on Italy, of the Alps, of the Pyrenees, and of *les Cevennes*, immersed in humid vapours, and the nocturnal dews and rains, and exposed to a hot sun in a close, calm atmosphere, in those deep and recluse valleys, where men are observed to undergo the greatest imbecilities of mind, and deformities of body, from attacks of this disease. Cretinism is also attended with an enlargement of the thyroid gland, *goitre*, or *bronchocele*, which greatly prevails in Derbyshire, of England, and in Chinese Tartary, or places resembling the recluse Alpine valleys. The heads of the Cretins are deformed, their statures diminutive, their complexions sickly, their countenances vacant and insignificant, their lips and eyelids coarse and prominent, their skin wrinkled and pendulous, their muscles loose and flabby, their minds stupid or fatuitous, and are often subjected to rachitis and goitre.

THE CURATION OF SCROFULOUS INFLAMMATION OF THE JOINTS, ATTENDED WITH A SOFTNESS OF THE BONES, SWELLING OF THE BELLY, HEAD, &c., CALLED RICKETS.

The indication of cure in this dreadful disease of children, is to remove the causes, and to restore the vigour of the constitution. To brace the system, and promote digestion, it is necessary to administer good nutrient foods, and drinks, such as rice, barley, salop, arrowroot, millet, tapioca, flour and milk, with mild spices, and corroborant tonics, as wine, barks, iron, Columba, myrrh, lime water, phosphate of soda, good nursing, and regular exercise in the pure air, dry residence and bed chamber, cold sea bathing,

sea air, and mechanical apparatus to preserve the straightness of the flexible bones. A course of gentle mercurial purges, and lancing the gums, when the disease arises during painful dentition, generally produces a salutary change on the system.

THE SYMPTOMS OF INFLAMMATION OF THE BONES, COMMONLY DESIGNATED SPINA VENTOSA.

Scrofulous and venereal, or common inflammation of the bones, are distinguished by a peculiarly obtuse, deep seated pain, aching in the bone, extremely distressing to the patient, which soon affects the health, and excites general fever. The parts at length swell, and a tumour, possessing great hardness to the touch, is formed; the skin becomes red, sensible, and hot, accompanied with other symptoms of compound inflammation. It generally arises from injuries, syphilitic and strumous dispositions, &c. This tumour remains in a state of abscess, attended with great constitutional irritation, quick hard pulse, white tongue, loss of appetite, costiveness, &c., and at last bursts, and discharges a thin acrid matter, and carious splinters of the bone, when the disease first attacks the periosteum, and the bone itself. But when the medullary substance is diseased, an abscess may remain long shut up, and destroy the patient. Both these consequences of inflammation of the bones, may end in ulcerations, exfoliations, gangrene, necrosis and caries, morbid softness, or brittleness of them.

THE CURATION OF INFLAMMATION OF THE BONES,
COMMONLY DESIGNATED SPINA VENTOSA.

If the nature of this insidious disease is discovered at the commencement, the general remedies for inflammations are necessary, viz., bleeding, purging, warm bathing, &c., but generally, the disease has advanced too far before it is discovered, and matter is formed in the bone, when we must perforate it with a small trephine, and evacuate all the matter. Barks, wine, good air, and nutritious food, are necessary in tedious and debilitating ulcerations, in the absence of severe hectic fever. Astringents, and detergent injections are requisite to promote the formation of granulations, and to correct the fetor of the discharge. The tincture of myrrh is a very good injection, and the use of mercury is sanative in ulcerations of the bones, from the venereal virus.

THE SYMPTOMS OF SCROFULOUS INFLAMMATION OF THE
CONGLOMERATE GLANDS OF THE NECK, LOWER JAWS,
ARMPITS, AND GROINS.

I have already mentioned inflammation of the glands of the nostrils, under the name of *catarrh*; of the fauces, called *quinsy*; of the groins, named *bubo*; of the subcutaneous membrane, denominated *furuncle* and *phyma*; of the neck, called *mumps*, in treating of febrile general compound diseases. But I deem it expedient here to speak particularly of inflammations of glandular structures and bodies, occurring in all tumous constitutions.

When these glands begin to swell, catarrhal symptoms

generally exist ; the tumours become hard and painful, and the whole neck is swelled and enlarged ; but the progress of the glandular inflammation, and the maturation of the tumour are slow ; the tumour gradually increases, renders the skin red and livid, ulceration of the integuments ensue, and thick curdly matter, or white coagula, floating in thin fluid, is discharged, and long and tedious ulcers generally follow the rupture of such abscesses. The margins of the ulcers are smooth, obtuse, and overlap the sore ; they are of a purple colour, and rather tumid or hard. The discharges are thin, and consist of coagulated matter, the pain is inconsiderable, the surfaces of the ulcers are light red in their colour, the granulations, flabby and indistinct, and deep sinuses exist in the surrounding cellular membrane. The disease may appear in any time of life, from a year old and upwards ; but it generally begins about the third, seventh, and fifteenth year of their age ; in children of a lax soft habit, smooth and fine skin, fair hair, rosy cheeks, delicate complexion, comely and handsome in their persons, great acuteness of intellect and genius, thin and spare constitutions. It prevails in all cold, damp, and humid climates, where the weather is variable and unsteady ; from latitude 45 to 60, is the principal climate of this disease. But the causes of cold and wet applied to the sweating body, in the form of rains, cold damp habitations, immersion in cold water, or excessive vicissitudes of the atmosphere, will produce the disease in all persons liable to obstruction of the glands. The same affliction happens to the glands of the lymphatic system, especially to the subcutaneous, maxillary, the jugular, the bronchial, the prostate, the mesenteric, the axillary, inguinal, and lacrymal glands.

The glands of the groins and armpits are often attacked with inflammation of the common kind, from being exposed to sudden cold. Buboes may often exist in the groins with-

out having received any venereal virus ; may mature, break, and heal up, as scrofulous sores of the neck frequently do. Pain in the groin, stiffness of the limb, a tumour of the inguinal gland, and slight fever, characterize the disease ; the same symptoms appear to manifest the tumour of the armpits, which are commonly scrofulous in their nature.

THE CURATION OF SCROFULOUS INFLAMMATION OF THE GLANDS OF THE NECK, JAWS, ARMPITS, AND GROINS.

Acute inflammations of these glands require venesections, mercurial purges, warm baths, and a light nutritive diet, according to the violence of every individual case. Strengthening remedies, as sea bath, barks, wine, chalybeates, neutral salts, iron, mineral waters, and hemlock, opium, henbane, bittersweet, guaiacum, sarsaparilla, sassafras, mezerion, alkalies, &c., have been praised for the cure of scrofula, *sed natura curat acutos, tempusque sanat chronicos, morbos quidem strumosos* ; but to procure a resolution of a scrofulous inflammation of the acute kind, bleeding, purging, warm bathing, mercurial friction, and external warmth, are necessary ; and cataplasms of fresh cow dung, bread, and decoction of elm bark, mercurial ointment with the poultices, fomentations, warm bath, mercurial plasters or frictions, are beneficial for maturing or dissolving scrofulous tumours in any part of the body. As for strumous ulcers, I have prescribed an ointment, which, together with the internal use of other medicines, heals them up in a few days. This is an ointment composed of sulphur, minium, and sweet oil, or hog's fat, to be applied to the ulcers in very thick dressings, till they are wholly healed.

THE SYMPTOMS OF INFLAMMATION OF THE MESENTERIC GLANDS.

Every inflammation of the mesentery, is, in fact, an inflammation of these important glands, and induces an obstruction of them, which is observed in cases of *tabes mesenterica*, diarrhœa, colic, and *marasmus* of children. It sometimes attacks the adult persons in the form of colic pains, slight fever, and wasting. The disease is attended with colic pains, curdly or chyley stools, looseness, an enlargement of the abdomen, general emaciation, dull glossiness of the eyes, sharpness of the nose, marbly whiteness or a hectic redness of the cheeks, alternating with each other, and a voracious appetite; the hectic remittent fever increases towards evening, the pulse rises to 120 or 140, the skin is dry and rough, and feverish fretfulness appears in the countenance. The patient languishes in this manner for some time, according to the degree of obstruction of the mesenteric glands, when fatal suppuration, or scirrhus induration of them ensues, and he dies of general consumption.

THE CURATION OF INFLAMMATION OF THE GLANDS OF THE MESENTERY.

The moment we apprehend inflammation of the mesenteric glands to exist in any patient, warm bath, mercurial purges, and a mercurial course, are the best remedies to restore them to a natural pervious state. Bleeding, even in cases of adults, is seldom necessary, except when the at-

tending hectic fever runs so high as to demand the operation. After we have removed the inflammation, tumour, and obstruction of the mesenteric glands, a course of tonic medicines is necessary to restore the tone and vigour of the system. Barks, lime water, chalybeates, columba and gentian roots, aromatics, nutritive light foods, as broths, jellies, sago, blanc mange, salep, Indian arrowroot, tapioca, soups, milk, eggs, warm bath, exercise in the open air, &c., are the most excellent restoratives.

THE SYMPTOMS OF INFLAMMATION OF THE PROSTATE GLAND.

This affection is characterized by a sense of weight and bearing down in the *perineum*, frequent inclination to make water, great difficulty and pain in voiding it, and obstinate costiveness; the evacuation of feces is painful, and accompanied generally with a discharge of urine, the painful micturition and dysuria increase, and at last a total suppression supervenes. This disease is often confounded with the same affection of the urinary bladder. It terminates by resolution, abscess, scirrhus, or ulceration.

THE CURATION OF INFLAMMATION OF THE PROSTATE GLAND.

When the fever runs high, general bleeding, purging, warm bathing, &c., is necessary to effect a resolution of the local affection. In all chronic affections of this gland, a mercurial course and frictions often remove the disease. In

cases of total suppression of urine, the catheter must be constantly used to evacuate it, by keeping the swelled gland from obstructing the passage.

THE SYMPTOMS OF INFLAMMATION OF THE GLANDS OF THE URETHRA, COMMONLY CALLED GONORRHOEA.

Inflammation of the mucous glands of the urethra, is generally produced by venereal virus, and is known by an uneasy sensation at the extremity of the penis, a fulness and redness of the lips of the urethra, the oozing of a whitish fluid, pain and itching supervening about the frenum ; in five or eight days after the infection the discharge increases, assumes a greenish or yellowish colour, great pain and scalding heat are experienced in making water, and a painful and involuntary erection and curvation of the penis ensues, to excruciate the patient : this exquisitely painful erection and incurvation is called *chordee*. The bladder is irritated, and cannot retain the urine any length of time, a great uneasiness is felt about the testicles, perineum, and fundament, sometimes matter is discharged from the glands, penis, or membrane of the foreskin, with great swelling, and redness, and pain, and a distressing *phymosis*, or *paraphymosis*, supervene. The glands of the groin sometimes swell, the testicles enlarge, and are painful ; in fact, the inflammation runs along the urethra to the bladder, produces cystitis, spasmodic stricture of the urethra, retention of urine, disease of the prostate gland, of the womb, of the testicles, painful curvature of the penis during erection, hemorrhage from the urethra, &c. These same symptoms happen in women, (except what depends on the male organs, as *chordee*, *phymosis*, &c.) from their urethra and

vagina, in cases of inflammation of these mucous glands of their female organs of generation. This disease is called gonorrhœa, and is often mistaken for leucorrhœa and whites in faithful wives. Gonorrhœa in women is distinguished by the constancy of the running, the burning in making water, the itching of the pudenda, the swelling of the lips of the vulva, the increased inclination to venereal coition, and the enlargement of the inguinal glands, together with the knowledge of the cohabiting husband, or male, having the disease.

THE CURATION OF INFLAMMATION OF THE GLANDS OF THE URETHRA, COMMONLY CALLED GONORRHŒA.

If the inflammatory symptoms run high, general bleeding, purging, warm bathing, abstinence from food and all fermented liquors, cooling diluent drinks of barley, rice, cumfrey, linseed or arrowroot decoctions, drinks of gum arabic, &c., are very necessary to subdue the local affection. When inflammation of the prostate gland, testicles, or inguinal glands, and when contraction and swelling of the prepuce, called phymosis and paraphymosis, &c., supervene, in cases of gonorrhœa, powerful mercurial purges, venesection, warm bathing, &c., are required to remove all local inflammation and general fever. In common mild cases, two drachms of the sulphate of magnesia, thrice a day, or submuriate of mercury, ^{or} abstinence from high seasoned foods and fermented liquors, are often sufficient to carry it off.

As soon as the inflammation subsides, an astringent injection of the solution of the sulphate of zinc, or acetate of lead, stops the discharge. When we observe symptoms

of ulceration, lime water ~~and cold bath~~, and a solution of the oxymuriate of mercury, used as injections every three or four hours, will heal up the internal ulcers. When hemorrhage occurs, the introduction of a large bougie, or a small gut to inflate in the urethra, cold lotions, astringent injections, cold applications, and compression to the perineum, have been recommended to stop it. If the glands of the groin swell, the applications of leeches, cold lotions, blisters, or mercurial frictions, with rest, will remove the tumours. If a stricture of the urethra happens, the daily use of a bougie is necessary to keep the passage open, and if the stricture be of long standing, and obstinate, the bougie should be armed with lunar caustic, introduced for a minute every day, in order to remove it, and open a wide and clear passage for the urine and semen. If a permanent contraction or retraction of the prepuce takes place, after the inflammation has subsided, or during the inflammation, in cases where gangrene is to be feared, we must divide the prepuce at its dorsum, by means of a sharp pointed knife, concealed in a grooved director, as are recommended in the chirurgical part of my work.

If a long discharge continues after the inflammatory symptoms have vanished, in consequence of a permanent relaxation of the mucous glands of the urethra, or a diseased state of them, induced by repeated attacks of severe inflammation, it is denominated a *gleet*, and powerful astringent lotions, or injections, are necessary to suppress it. Injections of the oxymuriate of mercury, alum, muriate of ammonia, sulphate of copper or lime, and sea water, with the use of the cold marine bath, are most beneficial. When the inflammation, in cases of severe gonorrhœa, extends to the reticular membrane of the penis, produces an extravasation of coagulable lymph, which unites the cells, and destroys the faculty of distention of the corpus spongiosum urethræ, making it

unequal to the corpora cavernosa penis, a painful curvature of the penis, during erection, occurs, and is called a *chordee*, which is to be cured by general bleeding, purging, warm bath, leeches, camphorated and opiated applications to the penis, and friction of mercurial ointment, and the internal use of opium, &c., according to the severity of the case. If inflammation of the testicles, bladder, &c. happen, the remedies for simple inflammations of these parts are necessary.

THE SYMPTOMS OF INFLAMMATION OF THE FINGERS.

Inflammation of the fingers is one of the most painful of the external affections, and is generally divided into four species: the first occupies the skin under the nails, the second is seated in the cellular membrane, at the extremities of the fingers, the third occupies a place underneath the sheath of the tendons of the flexors of the fingers, and the fourth species is seated in the bone itself, under the periosteum. Every one of these is more severe and distressing than another, and sometimes terminates in the loss of a joint or joints of the fingers, or even life itself. The first species appears in the form of a small swelling, and pain and redness about the nails; the skin becomes discoloured, and the tumour quickly advances to suppuration; when the cuticle becomes transparent, it bursts, and heals up with the aid of a poultice, or simple salve.

The second species attacks and advances with greater rapidity and severity than the cutaneous species, an affection of the cellular membrane being attended with more acute and throbbing pain, more slow suppuration, greater elevation of the skin, and a more tedious ulceration.

The third species is infinitely more violent and dangerous than the preceding, for the matter, after maturation, cannot escape or make its way to the surface, being enclosed by the sheath of the tendons, and gets into the hand, and lodges under the aponeuretic expansion of the palmaris muscle; the most excruciating pain extends along the internal condyle of the humerus to the axilla; the whole arm swells, and is highly inflamed; there is great restlessness, high fever, and more or less delirium, when the affection runs high, and is extensive in its constitutional effects. A deep and early incision through the strong ligamentous bands, which confine the tendons and matter, should be made, and when the matter is collected within the aponeurosis of the palmaris, a division of it, cautiously and freely, should be performed.

The fourth species occupies the bone, and is characterized by a deep seated pain, not acute, but more distressing than is experienced in the former species. Fever and delirium, little or no swelling, a livid appearance of the fingers, which are covered with dark blisters, containing a bloody serum, which threatens immediate sphacelus or gangrene. Bleeding and purging are necessary in this species, as well as in the last mentioned, and an incision should be made down through the finger, into the bone, to evacuate the bloody sanies, and should that prove unsuccessful, the finger must be amputated, especially when the bone is carious and sphacelated, as in cases of necrosis, and death of a bone.

THE CURATION OF INFLAMMATION OF THE FINGERS,
GENERALLY CALLED WHITLOW, FELON, OR PARANY-
CHIA.

If the inflammation is severe and deep in the fingers, accompanied with symptoms of a dangerous fever, such as delirium, great heat and thirst, red scanty urine, &c., general bleeding, purging, and an incision down to the bone, to evacuate the sanies, and relieve the distressing pain, &c., are absolutely necessary, both to save life and the fingers. If these prove unsuccessful, together with opium, poultices, warm baths, opiates, &c., it may be necessary to amputate the finger. When the bones become carious, extraction of the loosened portions, and injections of nitric acid, or vinegar, so diluted as to produce no pain, or of tincture of myrrh should be employed. When the inflammation is external, and slight, purging, warm bathing of the finger, cataplasms, and mature opening may be sufficient to remove the disease.

THE SYMPTOMS OF CIRCUMSCRIBED TUMOUR, OR INFLAM-
MATION OF THE CELLULAR SUBSTANCE OF THE EX-
TERNAL INTEGUMENTS, CALLED ANTHRAX, OR CAR-
BUNCLE.

This peculiar circumscribed inflammation of the cellular membrane, commences generally with small pimples, which run deeper and deeper into the cellular substance, and become exceedingly broad. General fever, with rigours, sickness at stomach, fainting, great prostration of strength, lan-

guid pulse, and other symptoms of typhus. The tumour at length degenerates into foul sloughing ulcers, accompanied with erysipelatous, miliary, or petechial eruptions, on different parts of the body. The numerous openings or great chasms pour forth their acrid humour, as happens in erysipelatous inflammations, and seem never disposed to heal, but often terminate in gangrene or ulceration. The carbuncle generally appears on the posterior parts of the body, and on persons of a middle age, and on luxurious livers. In the centre of the tumour, a dusky, livid, purple spot appears, its margin is paler, and variegated, with an extensive areola of a brownish colour, burns most intensely, small purulent vesications, with gangrenous bases, appear, burst, and evacuate bloody sanies, and all the symptoms proceed as we have described them. Anthraxes create fevers in lower Egypt, and in other parts of Europe and Asia, on the existence of great inclemencies and excesses of the seasons and atmosphere, especially after the departure of the inundating waters. These carbuncles have been found on dissections to occupy the internal viscera, the lungs, kidneys, liver, and intestines. When they are disposed to gangrene on the surface of the body, the event is death in general. Suppurating buboes produce fever of a mild kind, but furuncles, purple spots, hemorrhages, and colliquative diarrhœa, denote a fatal termination.

THE CURATION OF INFLAMMATION OF THE CELLULAR
SUBSTANCE, &c., OF THE INTEGUMENTS, CALLED AN-
THRAX, OR CARBUNCLE.

Venesections at the beginning of carbuncles, will both cure the inflamed, painful, burning tumour, and the febrile

disturbance of the constitution depending up it. Purgings and warm bath are also great auxiliary remedies in cases of carbuncles with fever. A free and an early incision is to be made into the tumour, and all the matter and sloughs are to be squeezed out of it, to which emollient poultices are then to be applied, till a healthy condition of the ulcer ensues. In the chronic stage of the disease, when all the inflammatory symptoms have passed away, bark, opium, cordial medicines, aromatics, ptisans, generous diet, &c., are indicated. When these carbuncles are the causes of the pestilential fever in Egypt, or any other country, venesections, saline purges, and the whole antiphlogistic regimen are extremely proper to arrest the fever, and the carbuncles together.

THE SYMPTOMS OF INFLAMMATION AND ULCERATION OF THE ANUS.

Inflammation in the form of a bile, often happens on the verge of the anus, produces and degenerates into an insupportable ulcer, commonly called "*fistula in ano*," which is a deep sinous ulcer, with a callous, and contracted margin, a small opening or aperture, or flabby strumous appearance of its margin, pours out thin sanies, or putrid water, or ichorous fluid, and never appears disposed to heal. This horrible ulceration sometimes penetrates into the gut of the fundament, into the bladder, into the vagina in women, to the *os sacrum*, *coccyx*, and contiguous parts, continues long, exhausts and consumes the patient, who often dies in the most complicated scene of misery. Surgeons have advised practitioners to open up the sinus freely, to reduce it to the state of a common ulcer, or simple wound, and then by to-

pical applications, as injections of lime water, solution of oxymuriate of mercury, tincture of cantharides, and to invigorate the constitution by tonics, bitters, exercise, nutrient food, &c. But I have cured them by changing the state of the bowels, and whole system, and detergent injections of oxymuriate of mercury, and by mercurial and sulphurous applications. Piles, obstructions of the rectum, condylomatous excrescences, furuncles, and abscesses about the anus, often end in insurable ulcers of these parts.

THE CURATION OF INFLAMMATION AND ULCERATION OF THE ANUS.

The indications of cure are to promote the benign formation of pus or matter, in cases of the incipient inflammations, to evacuate it when it has collected, and to heal the ulcer when it exists. Soft poultices of bread, turnips, and milk, &c., venesection, calomel purges, warm bath, &c., are necessary during the inflammatory stage of the disease. But when the *fistula in ano* commences, with a circumscribed, painful tumour and inflammation, which carbuncles exhibit, the abscess should be opened by a free incision, sufficiently deep and large to divide all the skin, to discharge the abscess at once, and to prevent a future lodgement of matter in the sinus, when a dossil of fine lint should be immediately introduced between the lips of the wound. See the operation in the surgical part of our work.

THE SYMPTOMS OF IMPETIGO, OR HUMID RUNNING
TETTER.

This inflammatory affection of the skin, appears under five forms or varieties: the figured, the spread, the erysipelatus, the scabbed, and the corroding species, which clearly demonstrate its identity with erysipelas, herpes, eczema, ecthyma, the exanthemata, pemphigus, chicken and swine pox, psoriasis, rupia, miliaria, scabies, lichen, and strophulus, only differing in different constitutions and conditions of bodies, by different powers of the causes, in the different seasons of the year, and in different climates of the earth, which often increase dry and humid tetter into leprous scabs, yaws, &c. Impetigo, however, is a pustular disease, characterized by an eruption of small pustules, in circumscribed patches, various in figure and magnitude. These clusters of yellow psudaceous pustules, are surrounded by slight inflammatory margins, somewhat raised, very little prominent, and acuminate. The pustules in a few days break, and discharge their watery, acrid humour, the surface becomes red and excoriated, shining, and exhibit numerous minute pores, from which the ichorous discharge is poured out, to concrete into yellow scabs, or greenish crusts, accompanied with a vexatious itching, burning, and smarting of the denuded parts. The watery fluid continues three or four weeks to ooze from underneath the scabs, then begins to cease, and the scabs to dry and fall off, leaving the cuticle red, rough, thickened, brittle or liable to crack, and to be excoriated, and to undergo a process of the same kind of running, scabbing, and falling off. This inflammation of the skin, which produces pustules of a

running ichorous kind, and incrustations of a yellowish or greenish appearance, in irregular patches, is not contagious, generally occupies the face and extremities, recur in spring and autumn, attack peculiar constitutions in hot climates, and harass persons during their lives.

THE CAUSES OF THE HUMID TETTER OR IMPETIGO.

Impetigo generally arises from particular irritants in the cuticle and skin, and commonly continue during the existence of these irritants. The external air, when the skin is in a peculiar state, will no doubt act on the surface to increase the affection; but burns and scalds, particles of sugar and lime, tartrite of antimony, poisonous sumach, emplas-ters, heat of the sun, acrid potass or soda, poisons, applied to the skin, will produce these impetigenous pustules in those persons predisposed to the disease. But what creates this predisposition? I would answer, a disorder of the digestive organs, overrich and overmuch food, heating liquors, suppression of urine, sudden changes of the weather and seasons, violent exercises, heats and colds, depressing passions, &c., will create this predisposition, which is generally found in sanguine temperaments, with a thin soft-skin, relaxed and bloated habit of body, or spare form, thin and harsh skin, or with peculiar melancholic dispositions. Persons of costive habits, living on rich fat meat, especially on hog's flesh, in a hot country, exposed to the heat of furnaces, &c., are often subjected to humid tetter.

THE CURATION OF HUMID TETTER OR IMPETIGO.

Impetigo can be cured by the internal and external use of sulphur, often accompanied with epsom salts, or supertartrate of potass. Sometimes it is necessary to wash the parts with warm bran or meal water, to change the condition of the skin, but the most efficacious of all remedies are sulphur ointment, applied constantly to the parts, and purges of the submuriate of mercury, to rectify the state of the digestive organs. Mercurial alteratives, in small doses, are considered by many practitioners essential to a perfect cure. Ointment of the nitrate of mercury, may be used in cases of little irritability and exudation, but all irritating applications generally aggravate the complaint. Some persons administer mercurials in impetigo as they would do in the scab, yaws, venereal, &c., and always fail in curing it by such means. In erysipelatous kinds of the disease, cooling salts, barks, mineral acids, sarsaparilla, sea bathing, tepid ablution, and even bleeding, sometimes do good. I never found any applications so good as sulphureous medicines and waters.

THE SYMPTOMS OF PSORIASIS, OR SCALY TETTER.

Psoriasis, or scaly tetter, appears under a great variety of forms, exhibiting the roughness and scaliness of leprosy, accompanied with redness underneath the cuticle. Psoriasis is sometimes diffuse and continuous, sometimes in separate patches of different extents, irregular in their figure,

having no elevated border, inflamed margin, or foul or circular outline of leprous clusters. The surface under the scales is more tender and irritable in general, than common leprosy, and the skin is often divided into rhagades, or deep fissures. It is not contagious, it is a constitutional disorder, arising from sudden heats and chills, drinking cold water after being violently heated, unseasonable employment of cold bath, copious use of acescent fruits, vinegar, or crude vegetables, in persons predisposed to the disease, by some peculiarity of the natural constitution. Women of sanguino-melancholic temperaments, with a dry skin, and a languid circulation, are often subjected to this cuticular distemper. After childbirth, during the existence of chlorosis, it is apt to affect them. Children are also liable to it, by being exposed to many sources of irritation, and it sometimes follows lichen, or prickly heat. Psoriasis, in all its forms, is characterized by a roughness, scalliness, redness, with irregular circumference, burning, intense itching, augmented by heat, relieved by cool air, preceded by pains and feverishness. The superficies of these patches is chopped, with the scaly roughness interspersed. These extensive eruptions sometimes appear at once, other times numerous minute elevations of the cuticle, covered with distinct scales, adhering to a central point, are gradually formed by the inflammation of the intervening cuticle. As the disease advances, the redness increases, and the skin becomes thickened and elevated, with deep intersecting lines, which contain a minute powdery scurf. The heat and painful sensations are aggravated by the least friction, which produces excoriation, and advances the sore, and painful rhagades about the face, ears, hands, fingers, &c., where the disorder generally appears. It often spreads rapidly over the bodies of children, in two or three days, but in adults it observes a more slow and gradual course. The fingers are

most frequently the seat of the disease, and are surrounded in such cases with a loose, scaly incrustation, the nails crack and exfoliate, but no part of the body is exempt from its attack. It commonly begins with a general indisposition, with occasional sharp pains in the stomach, redness of the skin during several weeks by constant irritation, and continues two or three months, is apt to return in successive years, on the approach and during the periods of spring or autumn, or in both of these seasons. As it proceeds, it often covers the whole body, destroys the nails of the fingers, excoriates the universal surface with its acrid lymph, followed by a hard and dry cuticle, which separates the large scales, and assumes the violence and appearance of common leprosy. It often too attacks the lips, palms of the hands, eyelids, prepuce, scrotum, and is attended with its usual symptoms of burning, itching, redness, scaliness, chops, excoriations, and incrustations of the skin.

THE CURATION OF PSORIASIS, OR SCALY TETTER.

The application of the preparations of sulphur and ointment of the nitrate of mercury, with the use of the tepid bath of sea water, daily, will often effect a cure of this troublesome disease of the cuticular surface. Cooling purgatives should be administered at the same time, and light milk diet used during the existence of the eruption. All stimulants and irritants should be avoided, and the cooling regimen employed in all cases of psoriasis. All spices, fermented liquors, pickles, acids, &c., are hurtful in all cases of the disease. When the disorder assumes the appearance of leprosy, the remedies recommended in the first and second species of that disease, as frequent ablution with warm

water, infusion of cedar wood, with moderate friction, sulphurous waters, decoction of dulcamara, dilution of alcohol or muriatic acid, lotion of sulphurated potass, and applications of pitch ointment, ointment of the nitrate of mercury, solution of the oxymuriate of mercury, arseniates, and internal use of nitre, soda, dulcamara, sulphur, arsenic, liquor of potass, juice of the cedar tree, or pitch, &c., are most beneficial and curative. If the itching, burning, and pain are extreme, a tepid bath of bran water, or the application of cream, oil of almonds, &c., generally procure ease. Antimonials, decoctions of sarsaparilla, dulcamara, and the internal and external use of sulphureous waters, as of Harrowgate, Leamington, Crofton, &c., are highly recommended by eminent practitioners. The internal use of calomel, and the external application of detergent cedar juice, mercury, sulphur, pitch, arsenic, &c., generally accomplish a cure. It is often necessary to keep the parts constantly covered with oiled silk, and sanative ointments, especially when the disease occupies the palms, the lips, the eyes, the scrotum, or prepuce.

THE SYMPTOMS OF PITYRIASIS, OR DANDRIF.

The dandriff is characterized by irregular patches of thin, dry, scurfy, white scales, which never form into crusts, nor end in excoriations, but commonly exfoliate, and recur continually, and generally occupy the heads of children. It happens, however, to adult persons, in the forms of slight inflammations of the cuticle, ending in a mealy scurf, which leaves the skin red underneath. This species appears mostly on the scalp, breast, stomach, arms, shoulders, back, bel-

ly, and thighs, in white or brown patches of different shades, branching and coalescing with interspersed portions of a natural colour.

THE CURATION OF PITYRIASIS, OR DANDRIF.

When pityriasis occupies the heads of children, purges of calomel, ablutions with soap and water, or solutions of potass, or of spirits, or the application of the ointment of the nitrate of mercury, commonly cure the disease. When the disease attacks adults, in any part of their bodies, pitch pills, oxygenated muriatic acid, calomel, antimonials, warm bath, lotions of muriatic acid, or spirits, or caustic potass, sea bathing, change of food and drink, are sufficient to effect a cure.

THE SYMPTOMS OF ICHTHYOSIS, OR FISH SKIN DISEASE.

Ichthyosis is characterized by a hard, rough, thickened, elevated, or horny texture of the integuments of the body, with a considerable tendency to scaliness, without the deciduous exfoliations, the distinct and partial patches, or constitutional disorder which accompany leprosy, and scaly tetter. The thickness, hardness, dryness, and roughness of the integuments, are of a warty character, like shagreen, to the touch, and often cover the whole body, in large continuous patches, except the flexures of the joints, inner parts of the thighs, and furrow of the spine, with dry horny excrescences.

THE CURATION OF ICHTHYOSIS, OR FISH SKIN DISEASE.

The cure of this hideous disease, is to be commenced by the use of the warm bath, during which all the horny scales can be easily rubbed off, and the cuticle wholly cleared of the excrescences, and completed by the external and internal use of pitch, friction, repeated bathing, sudorifics, alterants, as antimonials and mercurials, arseniates, ablutions, &c.

THE SYMPTOMS OF LEPROSY OF THE GREEKS.

Leprosy of the Grecians is characterized by scaly patches of different amplitudes, having always nearly a circular form, lightly or deeply affecting the skin. It commences with small, round, reddish, and shining elevations of the skin, smooth in the first two or three days, and then exhibiting thin white scales on the tops of these prominences, which gradually or rapidly enlarge to the size of half a crown, retain their oval or circular form in the patches, generate shining scales, and are encircled by a dry, red, and elevated margin. Sometimes these scales accumulate, and form thick prominent crusts. On the removal of these crusts or scales, the skin appears red, shining and smooth in the beginning, and in the advanced stages, deep cuticular lines and reticulations, coinciding with those of the adjoining surface, mark the progress of the disorder. Leprosy commonly begins on the extremities, where the bones lie near the surface, as on the arms and legs, gradually extending to

the thighs, shoulders, breasts, loins, sides of the belly, hairy scalp, face, eyes, temples, fingers and toes. In severe cases the nails of the fingers and toes become thickened, opaque, dirty yellow, aduncous, irregular on their surface, and formed in deep longitudinal furrows, and elevated ridges. It is attended with some degree of itching, on exercise, with the warmth in bed, a tingling in certain states of the atmosphere, commonly before rains, says Hippocrates, and in widely diffused cases, where a considerable degree of inflammation of the skin exists, extreme soreness, pain, stiffness, tingling and itching generally accompany its presence in the system, so severe as to render the motions of the joints impracticable, and confine the patient to bed, without any apparent derangement of the constitutional health, for many months or years.

The causes of this disease are heat, drought, spicy, rich, and improper kinds of food, hot aromatics, excess of sweating, retention of acrid particles of the urine, copious draughts of vinegar, cream, fermented liquors, violent exercise, fat meats, cold and moisture, which affect persons of ardent, dry, burning dispositions or temperaments, in tropical regions of Asia, Africa, and Europe. These causes, in hot dry countries, disorder the structure of the skin, its vessels and glands ; produce roughness, scaliness, tumour of the features, defluxion of the hairs of the beard and eyebrows, swelling of the nose, nasal sound of the voice, thickening of the ears, ulceration of the nostrils, fingers and toes, tubercles and scabs of the lobes of the ears and nose, offensive breath, virulent fetid sores in various parts of the body, deep putrid ulcers, separation of the joints of the fingers and toes, &c., which constitute the most violent modifications of leprosy, and destroy the subjects of the distemper. A peculiar predisposition to the disease, is produced by such causes in all warm climates, and the cure is to be

attempted by diet, regimen, and medicines calculated to remove that diseased disposition of the body, especially of the cuticular structure.

THE CURATION OF LEPROSY OF THE GREEKS.

In all cases of leprosy, light, nourishing, mild diet, should be used, and all spirituous liquors, and heating peppers and spices avoided. Frequent use of the tepid bath, combined with moderate friction, contributes to remove the scales, and soften the skin; but sulphureous waters, both externally and internally employed, are most beneficial in common cases of leprosy. The ablution of the body with cedar juice waters, persevered in for some days or weeks, is often sufficient to cure the disease. Solutions of diluted alcohol, sulphurated potass, decoction of dulcamara, of the juice of the cedar tree, liquor of potasss, muriatic acid, &c., may aid the exfoliation of the scales, and loosen the hardened crusts. When these are removed from the surface, the cuticle may be gradually restored to its healthy condition, by the ointment of the nitrate of mercury, the ointment of pitch, solutions of the oxymuriate of mercury, tar ointment, accompanied with frequent tepid ablution, or saponaceous lotions, which have been found curative in cases of leprosy. The cure will be accelerated in obstinate cases, by the internal use of those remedies which cleanse, stimulate, and change the cutaneous vessels and textures, such as the juice of the cedar tree, tar, turpentine, pitch, oxymuriate and muriate of mercury, solanum dulcamara, sulphur, soda, nitre, antimony, white hellebore, sulphureous and mineral waters, black sulphuret of mercury, &c., but in all cases where the cutaneous inflammation and irritability of the surface are

present, all external stimulant and irritant applications must be avoided, and tepid ablutions, with bran water, oatmeal water, juice of the cedar tree, sulphur bath, besmearing with cream, tallow, butter, &c., employed instead of them. Watching, fatigue, exposures, &c., must be avoided, and nutritive food, moderate exercise, the use of barks, mineral acids, and sea bathing, are to be used to complete the cure. All rich dishes, all high seasoned foods, fermented drinks, animal food, &c., are to be forbidden, and a milk or vegetable diet prescribed in all cases of leprosy.

THE SYMPTOMS OF HERPES, OR CREEPING TETTER, OR SALT RHEUM.

Herpes, or creeping tetter, which consists of numerous small vesicles, raised in distinct and irregular clusters, appearing in quick succession, near together, upon an inflamed margin, or base, that extends a little beyond the margin of each cluster, is attended with heat, tingling pain, and considerable constitutional disorder. The lymph of the vesicles, which is clear and colourless at the beginning, soon becomes opaque, and concretes into scabs, or emanates from the pores, and produces tedious ulcerations of the cutaneous surface. There are six varieties of this disease, and in these several forms it approaches near to the nature and appearance of the other tetter and leprosy, and require similar methods of cure. It is named according to its seat and appearance, *herpes phlyctænodes*, attended with large, oval, and brownish vesicles. *Herpes zoster*, or shingles, observing a course round the body, like a belt: *herpes circinatus*, or ringworm, existing in round clusters: *herpes labialis*, or wildfire, attacking the lips: *herpes præputialis*, occupying

the prepuce ; *herpes iris*, infesting the back or palms of the hands and fingers, and the instep, and appearing like the rainbow, in circular rings ; which distinction is of little or no use, in actual practice, to direct the method of cure.

THE CURATION OF HERPES, OR CREEPING TETTER, OR SALT RHEUM.

As herpes, in all its forms, obviously depends upon some peculiarity of the constitution, produced by the mode of living, improper food, hot climate, habit of the body, excessive eating and drinking, &c., persons affected with it, should avoid all fat, rich foods, all fermented liquors, drunkenness, gluttony, fatigue, cold after sweating, spices, animal food, &c., which seem to create and increase the cutaneous disorder. In all common cases, the ointment of the nitrate of mercury, lotion of the nitrous acid, oxymuriate of mercury, sulphate of zinc, acetate of lead, or of lime water, may cure the disease. But the phagedenic, or ulcerating kind of herpes, requires strong stimulants of caustic, butter of antimony, camphorated spirits of wine, resinous or cedar juice ointment, oil of turpentine, the internal use of nitrous acid, calomel, epsom salts, &c. Warm sulphureous baths, are very beneficial in all obstinate cases of the disease. When it attacks the throat, known by the shivering, heat, pains in the limbs and stomach, with nausea, lassitude and languor, headach, pain and difficulty of deglutition, eruption of inflamed vesicles on the tonsils, uvula, fauces, &c., the antiphlogistic plan of treatment is necessary, together with the use of lime water, magnesia, bitters, tonics, alterants, and light vegetable food, and mild drinks of soft water, barley, oat meal, or rice waters, and warm bath.

THE SYMPTOMS OF ELEPHANTIASIS, OR TUBERCULOUS
LEPROSY.

Elephantiasis is characterized by dusky, red, or livid shining tubercles, of different sizes, situate on the face, ears, extremities, nose, lips, pubes, armpits, fingers, toes, and whole skin of the body. The whole skin often becomes rugous or wrinkled, swelled and insensible; the hair, except of the scalp, falls off, and the tubercles increase in the different parts of the body. The disease is slow in its progress, often continues for several years, without disordering the animal and natural functions, and gradually advances with a sable pace to a state of amazing deformity and incurability. The wings of the nose swell, and become scabrous, the nostrils dilate, the lobes of the ears enlarge, thicken, and are beset with tubercles, the hairs of the eyebrows, beard, pubes, armpits, &c., fall off, the skin of the forehead and cheeks becomes thick, tumid, and rugous, or folded, the voice becomes hoarse and obscure, the sensibility of the parts affected is partly or totally abolished; these tubercles begin to crack and ulcerate, and ulcerations also appear in the throat, mouth, and nose, which destroy the palate, and cartilaginous septum, the nose falls, the breath becomes intolerably fetid, the tuberculated, rugous, and thickened skin of the extremities, is divided into fissures, and ulcerates, or is corroded underneath dry, sordid, and putrid scabs, and the fingers and toes gangrene and drop off joint after joint; a dreadful hectic fever comes on, attended with all the distressing symptoms of coldness and shivering, pains in the back, loins, head, and inguinal glands, and puts a period to the existence of the patient, in the midst of horror,

putrescence, and sanies, which render him or her loathsome to their attendants, as happens in cases of ulcerous cancer, and fungous hæmatodes, in our own northern climates. I have frequently seen this hideous disease in the East Indies, and I understand by the writings of Hillary, Hendy, Parsons, Bancroft, Adams, Aretæus, Alsaharavius, &c., that the disease happens in the West India Islands, Asia, Africa, Europe, America, and the isles of the ocean, where the causes of the disorder predominate. The disease sometimes occupies one leg only, and is attended with an enormous swelling, or tumid condition of the leg, arising from repeated effusions, and collections of lymph and gelatinous matter in the cellular membrane, under the skin; in consequence of a slow inflammation of the lymphatic glands, and other vessels of the leg. The skin of the leg thickens, the vessels become enlarged, its surface grows dark, livid, rough, scaly, or rugous, and by the repeated attacks of inflammation and deposition, the leg is hugely enlarged, and prodigiously increased in its mishapen figure, resembling the clumsy leg of an elephant, whence it has obtained its name, *elephantiasis*, and in the course of years, the organization of the limb is totally and finally altered, and an incurable condition ensues. The swelling is hard, firm, elastic, void of pain, and does not pit on pressure. The disease consists of a thickened, morbid skin, a distention of the veins and lymphatics, a stagnation of gelatinous matter in the cellular substance, dilatation of the venous and lymphatic vessels of the limb, and a loss of sensibility. The muscles, tendons, ligaments, and bones, are generally found in a sound condition. It appears, then, that the inflammation occupies the lymphatic glands, and absorbents of the parts, inducing effusion, and collections of gelatinous and serous matter in the cells of the adipose membrane, stagnation of blood in the veins, and a total disorganization of structure.

THE CURATION OF ELEPHANTIASIS, OR TUBERCULOUS
LEPROSY.

In East India, where the Hindoo physicians call the disease, *juzam*, *juzamlyk*, from the Arabic word, erosion, truncation, excision, or *firádi khún*, affection of the blood, or *khora*, a composition of arsenic and black pepper, formed into pills, is the great remedy against this terrible malady. One grain of arsenic, to six parts of black pepper, beat up in a mortar, moistened with a little water or syrup, and made into pills as large as tares, one of which is to be taken evening and morning, in the juice of betel leaves, or water. But I have always proceeded on the plan of treatment most beneficial in all cases of inflammations of the cellular membranes, viz., bleeding, purging, rubbing, bandaging, exciting absorption, and reducing the swelling, by all the external applications, and internal remedies which I have deemed efficient to effect these important ends. The internal use of cathartics, diaphoretics, diuretics, alterants, as mercurials, antimonials, arseniates, nutrient foods, and bland drinks, restoratives, &c., combined with external frictions and binding, to excite absorption, is the most effectual in the cure of this tremendous distemper.

THE SYMPTOMS OF THE ITCH, SCAB, YAWS, AND POR-
RIGO.

The dry itch, or prurigo, is known by a severe itching of the skin, accompanied with an eruption of little colourless papulæ, or pimples, over the whole body, under three va-

ieties of violence, appearance and occurrence, the mild, the stinging or creeping, and the senile prurigo, or dry itch; greatly augmented by the heat of the fire, warmth of the bed, or drinking warm liquids, &c.; and, by scratching the heads of them, little dry black, or red points or scabs, appear on the abraded pimples, to cover the whole skin, while those which have not been scratched, escape observation. It appears on persons reduced by sickness, indigestion, head-ach, fatigue, watching, low diet, visceral obstructions, or improper kinds of food, or those addicted to the use of vinous, spirituous and cerevisial potations, high condiments, pickles, spices, vinegars, or disorder of the digestive organs.

The curation of dry itch is to be accomplished by an observance of proper diet, removal of the causes, and the internal use of sulphur, nitre, carbonate of soda, decoctions of sarsaparilla, cinchona, serpentaria, bitters and tonics, oxygenated muriatic acid, sulphureous waters, combined with tepid, frequent ablutions with warm water, to remove the sordes, and cleanse the skin, which are generally sufficient to remove the disease. It is most difficult to cure in aged persons, whose frames become affected by so intolerable an itching, that their future comfort in life is entirely destroyed by it. In such, a warm bath, sulphureous waters, or sulphur given internally, and applied externally, lotions of the oxymuriate of mercury, alcohol, turpentine, &c., to destroy the lice, which are commonly generated on the bodies of those persons who are afflicted with the disease, are the most beneficial. Small doses of the submuriate of mercury, the ointment of the nitrate of mercury, saturnine lotions, lime water, soda, potass, &c., are very useful to relieve the patients. When this excessive prurigo occupies the pudenda, nates, pubes, prepuce, vagina, urethra, and scrotum, and arises from ascarides, leucorrhœa, hæmorrhoids, acrid humours, and morpiones, &c., it

may be cured by cooling lotions, mercurial ointments and purges, suited to the nature and causes of each case of the disease.

The scab is characterized by an eruption of pustules, or small vesicles, or pimples, accompanied with constant and intolerable itching, and slight feverishness over the whole body, excepting the face, and particularly abundant on the wrists, fingers, nates, and flexures of the joints. It appears under four varieties of forms and names, viz., the papular, the vesicular, the pustular, and the cachectic scab, which bear such a resemblance in their nature, appearance, and cure, to the humid and scaly tetters, lichenes, herpes, and eczema, ecthyma, porrigo, &c., as to be often mistaken for these noncontagious eruptions. The scab begins with small pimples, or itching vesicles, slightly inflamed, and acuminate, running into pustules, which soon break, or are abraded by the nails of the fingers, and are succeeded by scabs of a yellowish or brown appearance, formed by the concretion of the yellowish puriform matter, that flows from the broken pustules. These broken pustules often degenerate into excoriated and ulcerated blotches, discharging pus or matter to form the dry scabs. These pustules are often distinct, prominent, and yellow, have a moderate inflammation round their bases, mature in two or three days, burst, and ulcerate with increased pain and inflammation.

The method of curing the scab consists in the external and internal use of sulphur, or mercury, accompanied with the administration of nitre, salts, &c., cautiously and judiciously employed. Sulphur and mercury are both specific remedies against the common scab, but some hate the odour of sulphur, and would prefer any other medicine to mercury; so hellebore, muriate of ammonia, potass, plumbago Europæa, &c., have been employed; but none of these are worthy of the attention of practitioners, when we can easily

and safely cure this loathsome disease, by the proper use of sulphur or mercury, nitre, and salts.

Porrigio, or scalled head, is distinguished by an eruption of pustules, denominated *achores* and *favi*, generally on the head, sometimes on the extremities, neck, &c., accompanied with feverishness of the universal constitution. These pustules are of a whitish appearance, crowded together on a red surface, soon break, and discharge a viscid humour, which concrete on the parts into thin yellowish or greenish scabs; the pustular patches spread, renew their discharge, concrete into scabs, continue to emit the same fluid from underneath them, and increase their extent and thickness, until the whole face, scalp, neck, breast, shoulders, and extremities are covered with pustules, which contain a yellowish coloured fluid, of the consistence of honey, ending in whitish or yellow scabs. These pustules have red bases, and lymphatic tops, at the beginning of the eruption, but they burst in two or three days, and pour forth a copious humour, that concretes into the scabs just described.

The curation of porrigio, or scalled head, in all its forms, should be undertaken by washing off the scabs, and humour, or ichor, and shaving the head, and completed by applying the tar ointment, sulphur or mercurial ointments, ointment of the nitrate of mercury, of nitrous acid, of the sulphate of zinc, and of coccus indicus, lotions of potass, and muriatic acid, daily ablution, and the internal administration of the submuriate of mercury or sulphur. In cases where high scrofulous inflammation predominates, tepid bath, regular warm ablution, emollient cataplasms, cooling purges, light nutrient food, &c., should be employed, until the scaly chronic stage approaches, when preparations of mercury, sulphur, tar, camphire, tobacco, lead, hellebore, turpentine, elm, stavesacre, black pepper, capsicum, galls, rue, cedar juice, zinc, copper, especially the ointments of the nitrate

of mercury, of the white and red oxydes of mercury, tar, turpentine, &c., will effect the cure. Proper regimen, food and drink, and alterants, ought to be used in combination with all these external applications, as well as a course of diet and regimen calculated to alter the state of the digestive system.

The symptoms of the yaws, or *frambæsia*, are a slight feverishness, languor, debility, pains in the joints, resembling the pangs of rheumatism, which continue for several days, when pimples, or minute protuberances, appear on the skin, on the first eruption smaller than the heads of pins, and gradually enlarging, until in some cases they have the diameter of an English sixpence, or even advance to a greater extent. These protuberances are most numerous and largest on the face, in the groins and armpits, and about the anus and pudenda. The crop is not completed at once, but new eruptions appear in different parts, while the old ones dry away. A foul crust or scab is formed on the surface of the broken cuticle, large protuberances, or fungous excrescences, spring up from under them, obtain the magnitude of raspberries or mulberries, and thence obtain their name, *frambæsia*. The duration of these tubercles is six or nine months in children, and, in adults, one, two or three years have been required to complete their cure. They are rather insensible, except those on the soles of the feet, where they are compressed by the hard and thickened cuticle, and by walking; they never suppurate kindly, but discharge sordid glutinous humours, which concrete and form ugly white scabs around the sides of the excrescences, and cover the upper parts of them with white sloughs. When these appear on parts of the body covered with hair, they gradually change the colour from black to white, but leave no depressions of the skin. This is one of the species of leprosy described by Moses in Leviticus, (chap. xiii.) under

the characteristic appearance of "raw flesh in the leprous spots, with whiteness of the hair." This species of leprosy has been considered contagious in all ages, from the time of Moses to the present period of the world. In this disease, large, deep, sloughing ulcers, of the size of a crown piece, are formed, and emit a foul ichor, which corrodes the surrounding skin.

The method of curing this species of leprosy, has never been properly instituted by those who have delineated the ugly features of the disorder. The West India practitioners have learned by experience, that active evacuations retard the natural progress of the disease, and that mercurials only clear the skin of the eruption, without doing away the susceptibility to a new attack, or destroying the framboesian virus. A moderate and temperate regimen is necessary during the incipient stage of the malady, and, in the chronic stage of the disease, light nutritious diet, dry and wholesome air, warm clothing, moderate exercise, a course of tonic medicines, as sarsaparilla, cinchona, with mineral acids, antimonial and mercurials, &c., are required to alleviate the distress. The natives of Africa employ decoctions of two or three kinds of barks of different trees, which have purgative qualities or virtues, externally and internally, to cleanse the sores, remove the crusts, and to change the condition of the cuticular surface, while they administer tonic medicines, and apply other detergent remedies.

THE SYMPTOMS OF LUES VENEREA, OR THE VENEREAL DISEASE.

The venereal disease is highly contagious and communicable in all its forms and periods of existence. It is the ac-

tion of the venereal virus, or poison, in the solids and fluids of the human body subjected to it—a morbid poison of a peculiar and specific nature and virulence, which being once communicated to persons, or introduced into their blood, will always produce the same identical disease, variously modified by the peculiarities of their constitutions. It can only be imparted to other persons by contact in the act of coition, touching the ulcers, or washing the clothes of infected and poisoned persons. It appears in different parts of the body, most commonly in the genitals of men and women, but the absorbed virus may produce inflammations and ulcerations of the inguinal glands, throat, skin, eyes, tendons, periosteum, bones, penis, labia pudenda, vagina, pubes, scrotum, palate, nose, fauces, tongue, trunk and limbs. These inflammations appear on the penis, labia, pudenda, perineum, or in the vagina, like small pimples, full of matter, without much hardness or swelling, accompanied with a considerable itching or pain, which first break, then excoriate, and lastly ulcerate. A thickening of the part ensues, attended with a circumscribed hardness, and a prominent margin. Their surfaces are white or ash coloured, irregular, concave, thick, and ragged in their margin, resembling a curtain, hanging over the hollow sores, which are surrounded by a copper coloured areola of circumscribed inflammation, and are never disposed to heal, but produce sloughs, and emit sanious, gelatinous, whitish, yellow, or greenish matter, accompanied with nocturnal pains, from circular, distinct and small excavations of a peculiar appearance. These venereal ulcers may either be primary or secondary; either the parts first poisoned by the venereal matter inflame, break and ulcerate, or the virus is absorbed, and affects the glands in its course through the absorbents towards the blood, as in the groins, or the poison is carried into the blood and produces ulcers in the throat, on the head, trunk, and

extremities. The constitutional symptoms of lues venerea certainly indicate the severest forms of the disease. Local inflammations, and ulcerations created by venereal virus, may occur on the glans penis, the prepuce, the frænum, the scrotum, the mons veneris, the labia, the nymphæ, clitoris, vagina, mouth of the womb, perineum, skin, &c., where the matter was immediately applied, without the universal contamination of the fluids and solids, for a certain period of time, after the communication of the poison to these structures.

THE CURATION OF THE VENEREAL DISEASE, OR LUES.

Mercurial preparations are the infallible remedies for the cure of all venereal inflammations and ulcerations. On the first appearance of primary venereal sores, a solution of the oxymuriate of mercury in spirit of wine, or the application of lunar caustic, the nitrate of mercury, will remove chancres or venereal inflamed pimples and ulcers. In the stage of ulceration dressings of the common mercurial ointment, or ointments composed of the red and white oxyde of mercury, or a lotion of the oxymuriate of mercury, the nitrate of silver, and the internal use of the blue mercurial pills, are necessary to cure this virulent malady. But in irritable, peculiar constitutions, these ulcers unfortunately become phagedenic or putrescent, and gangrenous, and the use of mercury, the sovereign specific remedy, is injurious, therefore the external use of opium, fomentations, solutions of nitric acid, emollient poultices, and the juice of oranges, cinchona, wine, pure air, nourishing food, decoctions of sarsaparilla, mezereon, lobelia astragalus, oxygenated mu-

riate of potass, ipecacuanha, antimony, &c., are to be employed to change the foul condition of the sores, by strengthening the general system, when we can have an opportunity to resume the administration of the mercury. This medicine, carried to a gentle salivation, and continued till all the ulcers have healed, is generally considered sufficient to cure the malady; but various preparations of this medicine, and other remedies, are to be employed in its varied forms and stages. The external application of mercury, in general, is the most effectual and convenient mode of using it; the internal use of it is not so certain, nor so efficacious; for it affects the bowels of many persons, produces a diarrhoea and griping, great irritation and inflammatory fever, runs all away by stool, and never affects the general system. In other constitutions very few grains of this medicine would create the most violent salivation, without the least warning, and induces an inflammation of the fauces, gums, and alveolar processes. The great art in administering mercury consists in giving as much as will be sufficient to cure the existing disease in the shortest space of time, with the greatest safety to the constitution; as soon as we observe the visible effects of the medicine on the constitution, and secretion of certain parts, we ought to omit its employment, lest sympathetic fever, arising from the inflammation of the throat, gums, tongue, and mouth, should induce extreme debility, emaciation, indigestion, nausea, profuse perspiration, and diarrhoea, or break down the health and vigour of the constitution. To administer mercury judiciously, therefore, it ought to be employed in the way that is most beneficial and safe, in every constitution, to eradicate the poison from the system, without injuring its general health. In all cases we ought to begin with small doses, internally and externally, and gradually to increase the doses, till a copperish taste is perceived in the mouth; soreness of the gums,

mouth, throat, tongue or fauces, and fetor of the breath, supervene, when a copious discharge of saliva begins to flow from the mouth, to indicate the ample effects of the mercury on the general constitution. We must proceed cautiously, and cure effectually, in every particular habit, temperament, and constitution, the disease in all its stages, forms, and gradations. All persons subjected to the influence of mercury, should abstain from all salted, high seasoned meats, confine himself to light vegetable diet, as thin broths, preparations of sago, barley, rice, Indian arrowroot, half-boiled eggs, custards, light puddings, milk, &c., and exclude all wines, spirits, beers, acids, &c., which seem to be injurious to them under such circumstances. No great alteration, however, from the use of previous articles of diet, should be made, lest such a change produce bad effects on the digestive organs, and hurt their constitutions. If the mercury suddenly and unexpectedly salivates a person, notwithstanding all our precautions, we must give gentle purges of the sulphate of magnesia, or soda, or cream of tartar, but especially sulphur, which is one of the most powerful antimercurials in nature, and will carry it out of the body by the different excretions. In cases of primary sores on the genitals, the use of mercury for one or two weeks, carried to the extent of a gentle salivation, is generally sufficient to remove them, but in cases of secondary venereal ulcers, three, four, five, or six weeks' perseverance, in the use of mercury, is often required to eradicate the virus from the constitution. Old and severe sores often require eight or ten weeks to effect their curation. For these ulcers, lotions and gargles of the oxymuriate of mercury, fumigations with the red nitrate or red sulphuret of mercury, by means of a fumigating machine, and the application of mercurial ointments are the most beneficial. Venereal eruptions may be cured by the external use of mercurial ointments and

lotions, accompanied with the use of sudorifics, and decoctions of mezereon root and sarsaparilla, &c. Venereal nodes are to be cured by mercurial frictions and plasters, bleeding, warm bathing, sweating, blistering, and decoctions of sarsaparilla, mezereon root, lobelia, guiacum, opium, or free incision in case of suppuration, according to the circumstances of the several cases, that may come under our consideration. If warts arise on the genitals, they should be cut off, and rubbed with sulphate of copper, or lunar caustic. The same remedies and preparations, which we have just mentioned, are curative in all other venereal symptoms, as pains, blotches, scales, ozæna, ophthalmia, buboes, or phagedenic ulcerations, which distinguish the presence of this terrible virus.

When infants, says Mr. Burns, of Glasgow, become the subjects of the venereal disease, they are affected in different ways. "They may be diseased in utero, in consequence of the state of one or both of the parents. They may be infected by passing through the vagina, when the mother has chancres; or by sucking a woman who has the nipple affected. Of all these methods, the first is the most frequent; and it is worthy of remark, that this mode of infection may take place, when neither of the parents has at the time any venereal swelling or ulceration, and perhaps many years after a cure has been apparently effected. I do not pretend to explain here the theory of syphilis, but content myself with relating well established facts.

"In such cases, it is very common for the mother to miscarry, or have a premature labour, without any evident cause; and when this takes place, the child is found to have the epidermis wrinkled, or peeled off, as if it had been macerated, and sometimes deeper ulcerations are discovered. The liquor amnii is turbid and fetid. We are not, however, to suppose, in every instance where these appearances are

met with, that the child is syphilitic; for any cause, producing the death of the foetus, a considerable time antecedent to its expulsion, will produce nearly the same appearance. The diagnosis then, must depend much upon the repetition of the premature labour, the circumstances attending it, the history of the parents, and the distinct appearance of ulceration. In such cases, the parent originally affected, ought to undergo a mercurial course; and if the other parent have any suspicious symptoms, mercury should be administered to both. Sometimes the disease seems to wear itself out, without any remedies being employed; and the children, born in future, are healthy. But it often happens, that the child, though it have received the venereal disease in utero, and probably possessed it as a peculiarity of constitution from the time of conception, is born alive, and has even no apparent disease on the skin, or in the mouth. Frequently, indeed, it is born before the time, and perhaps it has been preceded by one or two dead children. It may be clean and healthy, and continue so for even a month or two, but oftener it is feeble, and is rather emaciated; and sometimes it has at the time of birth, or soon afterwards acquires, a wrinkled countenance, having the appearance of old age in miniature, so very remarkably, that no one who has ever seen such a child can possibly forget the look of the *petit vieillard*. In such a case, the child has scarcely any hair upon the head, but may have pretty long hairs on the body; it cries in a low murmuring tone, and appears so weak, that it cannot suck for a minute at a time. But whether the child be apparently healthy or emaciated at the time of birth, other symptoms presently appear; and of these, the most frequent and earliest is generally an inflammation of the eyes, accompanied with ulceration of the tarsi and purulent discharge. This appears a few days after birth. The eye presently, if neglected, becomes ulcer-

ated, and the cornea opaque. Copper coloured blotches, ending in ulceration, appear on the surface; or numerous, livid, flat, suppurating pustules, cover the surface; or many clusters of livid papulæ appear, which presently have the top depressed, and then end in ulceration. These papulæ are sometimes attended by an eruption of pale shining pimples on the face, which enlarge, become red, and often run together. Children have sometimes an eruption of herpetic looking spots, which I have formerly described, and which resemble syphilis. The syphilitic blotches are of a darker colour, are more apt to end in ulceration than in scurf, or to form crusts or scabs, and seldom disappear without the use of mercury; or if they do, they soon return, and become worse by continuance, and presently are combined with additional symptoms of the disease.

“The genitals, palate and anus become ulcerated, and sometimes excrescences sprout out from these parts. Foul sores, having retorted edges and a centre, and like lard cover the inside of the mouth; and chancrous ulceration takes place on the lips, especially about the angle of the mouth. These sores and chops are often surrounded pretty extensively with a whiteness of the skin, as if the part had been scalded or recently rubbed with lunar caustic, and, perhaps, from this circumstance, these sores have been called, though improperly, aphthæ. They may, however, be combined with aphthæ. The nostrils become stuffed, and discharge purulent matter. On the face and hands we see obstinate sores, covered with pus, others with crusts, while the intervening skin is sallow. The child is hoarse, and the glands of the neck, with those below the jaw, are swelled. Children, like adults, have in general the surface first affected, and then the mouth and throat. They seldom live long enough to have the bones diseased. They are always in great danger, and those who are much diseased never reco-

ver. Mahon, with great justice, ranks among incurable symptoms, the old decrepit visage, great destruction of the globe of the eye, chancres on the middle of the lip, spreading to the frænum, and extensive ulceration of the mouth. It must be remembered, that syphilis not only may appear under its own peculiar characters, but may also exist under the form of some of the eruptions common to children ; such as *crusta lactea*, *herpes psoriasis*, &c. These are known to be venereal by their being of a more livid colour than usual ; they tend slowly to ulceration, and when the scab or crust with which they are furnished, comes off, a foul honey-comb like ulceration is observed below. But the best diagnostic is, that they are soon attended with other symptoms, such as hoarseness, ulceration of the mouth and throat, &c. We must make up our judgment slowly, and with deliberation.

“ When a child is infected during delivery, the disease appears more promptly on the surface, in the form of ulcers ; and the usual train of symptoms follow, the mouth and genitals becoming presently affected. The disease generally appears within a fortnight after delivery, sometimes so early as on the fourth day. If the child receive the infection from the nurse, we discover ulcers on her nipples, and the disease appears on the child’s mouth, before the surface of the body be affected.

“ It has been proposed to cure this disease by giving mercury to the nurse alone, but this method is now abandoned, mercury being given directly to the child ; and it ought to be remembered, that this medicine produces less violent effects on the bowels in children, than in adults, and scarcely ever excites a salivation. But if given too long or too liberally, it may kill the child by its irritation, or may excite convulsions. Calomel is very often employed, and with great benefit, a quarter or half of a grain being given three times a-day. Others advise frictions, which are equally

useful. Fifteen grains of mercurial ointment are rubbed on the thighs alternately once in two days, until the mouth be found hot, when it is intermitted or continued, according to the state of the system, and the effect on the disease; it must be used till the disease be removed. It has been remarked, that children, apparently cured when on the breast, have had a relapse after being weaned. If the child be griped, a gentle purge, and then an opiate, will give relief. Some have used the ung. acid. nitros. in place of the mercurial ointment, but it is not to be depended on. It is, however, useful as an auxiliary, when applied to the affected part of the surface. Sometimes, in consequence of the use of mercury, a peculiar eruption, called the *eczema mercuriale*, takes place. This generally begins on the lower extremities, and spreads to the body. It consists of very small vesicles, which at first are like papulæ. Each vesicle may with a glass be seen to be surrounded with redness; and if they are not disturbed, they acquire the size of pins' heads, and then their contents become opaque. They are attended with heat and itching, and a general tumefaction of the part affected. Presently, even if not scratched, the vesicles burst, discharging thin acrid fluid, which stiffens the linen, and sometimes excoriates the part. When the discharge ceases, the cuticle becomes of a pale brown colour, and then blacker; and separating in pretty large flakes, leaves the skin below of a light red colour. After this, the skin comes off in scales or scurfs, perhaps two or three times. The disease ceases of itself, sometimes within ten days; often, however, it is protracted longer. Those parts which are first affected, are first cured. Relief may be obtained, by applying saturnine lotions, or weak saturnine ointment."

THE
NATURAL HISTORY
OF
The Rise, Progress and Termination
OF THE
EPIDEMIC INFLAMMATION,
COMMONLY CALLED
YELLOW MALIGNANT FEVER,
WHICH
PREVAILED IN THE CITY OF NEW-YORK,
DURING
THE AUTUMN OF 1822.

BY PETER DONALDSON, CHIRURGEON,

A Licentiate of the Royal College of Chirurgeons of Edinburgh; late in the Hon. East India Company's service of London; now a Practitioner of Medicine, Chirurgery, and Obstetricy in the city of New-York.

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PROTESTANT CHURCH

WEDNESDAY, JANUARY 1, 1880

MEMORIAL SERVICE

TO THE

Inhabitants of New-York.

CITIZENS,

I HAVE no occasion to make any apology for publishing this little work, which is solely intended to draw your attention to the real natural causes of our late epidemic disease, that has destroyed so many of our fellow-creatures; especially as it is well known to you that I have, indeed, had to encounter a great and unmerited opposition from my professional brethren in defending the truths herein advanced. I have no need to adduce the authorities of Hippocrates, Celsus, &c. among the ancients, or of Drs. Moseley, Cooke, Gregory, Huxham, &c. among the moderns, to confirm the accuracy of my observations, I appeal to all those who have suffered by the disease, either in their own persons, families, or relations; I submit the facts contained in the following history to their consideration; and would respectfully desire them to tell whether they, or their relations had caught cold, or had been exposed to the burning rays of the sun, nocturnal air, showers of rain, north and east winds, cold dampness of their bed-chambers, currents of air during sleep, after sweating, previous to or at the time of their attacks. And I would humbly entreat them to call all the circumstances of their several cases to their remembrance, and to tell whether they had been subjected to the influence of exciting passions of the mind, of cold in the bath, of fatigue, of the inclemencies and vicissitudes of the atmosphere; or to the operations of other previous diseases, improper kinds of food, of spirituous and fermented liquors, of putrid excrements retained in the intestines, of the acrid secretions of the liver, stomach, pancreas, &c. induced by long heat and drought, &c. I would pray them to declare the natural and evident causes of their sicknesses, if they have observed whence these have originated, from the times of their invasions. I would only desire all these things to be considered and determined

without partiality or prejudice, and I am convinced that all discerning persons will immediately understand the real causes whence all their epidemic distempers proceed, to desolate the habitations of men, in certain seasons of the year, in series of years, and in various regions of the earth.

Your several obligations, citizens, as the members of one community, require these incumbent duties of you. If the natural laws of equity and justice demand the concurrence of every member of the community to assert his share of public resentment at injuries done to society, surely the laws of our social existence require the mutual performance of those duties, which tend to the preservation of our own lives, and the lives of our fellow-creatures.

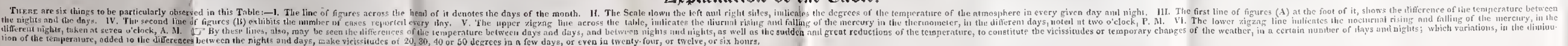
In discharging these our duties, mean-time, it is of the greatest importance that we act from good motives to benevolent ends; that we move under no error or delusion in principle or practice, and that we prefer the interests of our fellow-creatures, in point of providence and preservation, next to our own, as well as their health and happiness, honour and reputation, to our own pecuniary and nominal advantages; but we should come short of our duties by not using all lawful endeavours to preserve our own lives and the lives of others, in directing them to those remedies and means which tend to prevent or cure their diseases, and may issue in their preservation in this world of intellectual and corporeal dangers.

Under the influence of the knowledge of these truths, therefore, I hereby tender the first fruits of my labours to you, for acceptance, as the results of my experience and observations. And if you should find my sentiments different from the opinions of the rest of my brethren, I would only wish you to consider, that, what I have herein advanced, is supported by incontestable facts, that a very little experience is worth volumes of theory, that truth is opposed to error as light has been opposed to darkness since the beginning of the world.

Let no person attempt to support a doctrine or an opinion from theory, founded on false experience, error or delusion; let unbiased reason, common sense, and reiterated experience and observations, independent of the theories of men, find out and defend the truths of the science of medicine on which the lives of so many millions depend.

SHOWING THE RISE AND FALL OF THE TEMPERATURE, DURING THE DIFFERENT DAYS AND NIGHTS, FROM JULY 1st TO OCTOBER 16th, INCLUSIVE.

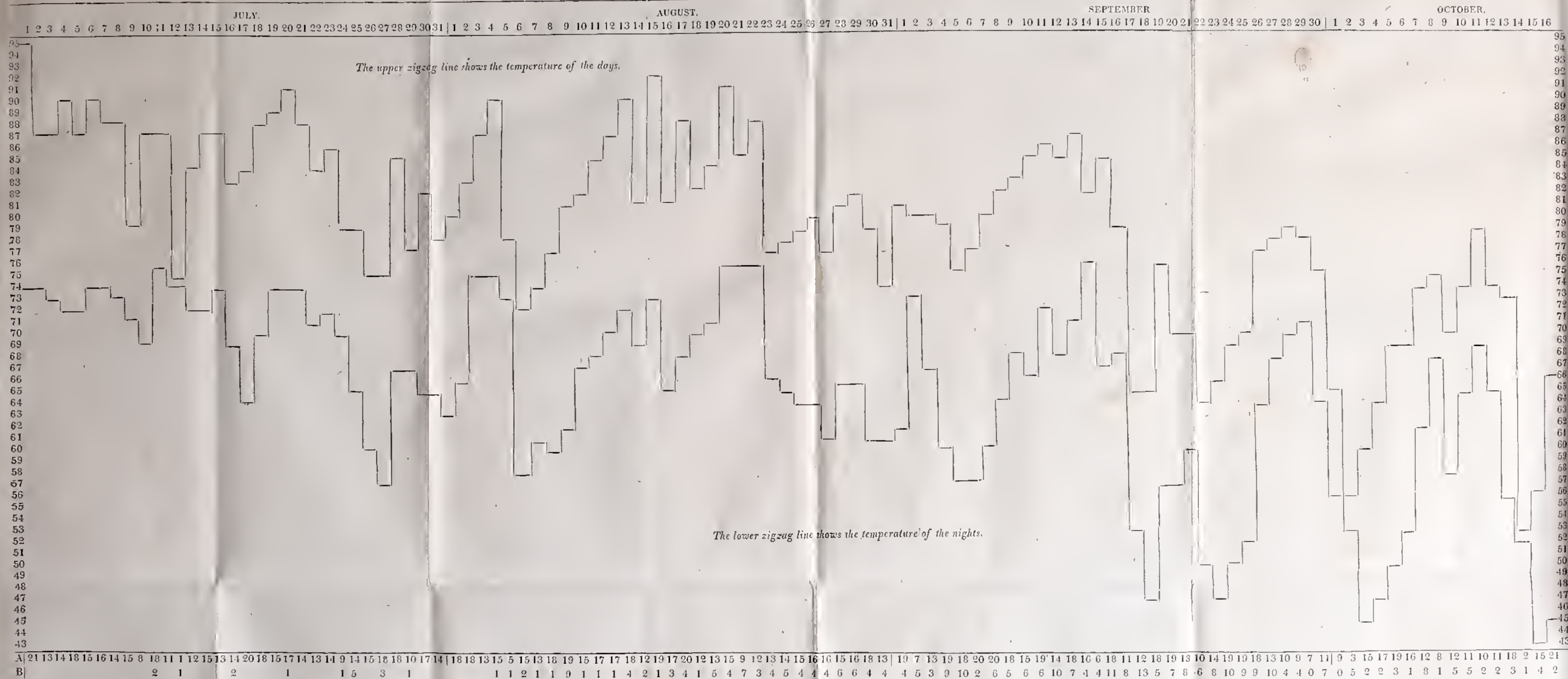
BY PETER DONALDSON, CHIRURGEON.



A TABLE,

SHOWING THE RISE AND FALL OF THE TEMPERATURE, DURING THE DIFFERENT DAYS AND NIGHTS, FROM JULY 1st TO OCTOBER 16th, INCLUSIVE.

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Explanation of the Table.

There are six things to be particularly observed in this Table:—I. The line of figures across the head of it denotes the days of the month. II. The Scale down the left and right sides, indicates the degrees of the temperature of the atmosphere in every given day and night. III. The first line of figures (A) at the foot of it, shows the difference of the temperature between the nights and the days. IV. The second line of figures (B) exhibits the number of cases reported every day. V. The upper zigzag line across the table, indicates the diurnal rising and falling of the mercury in the thermometer, in the different days, noted at two o'clock, P. M. VI. The lower zigzag line indicates the nocturnal rising and falling of the mercury, in the different nights, taken at seven o'clock, A. M. By these lines, also, may be seen the differences of the temperature between days and days, and between nights and nights, as well as the sudden and great reductions of the temperature, to constitute the vicissitudes or temporary changes of the weather, in a certain number of days and nights; which variations, in the diminution of the temperature, added to the differences between the nights and days, make vicissitudes of 20, 30, 40 or 50 degrees in a few days, or even in twenty-four, or twelve, or six hours.

THE NATURAL HISTORY. &c.

IN delivering the natural history of that epidemic, compound inflammation, I have deemed it most expedient to demonstrate the evident and true causes of the disease, by considering the peculiar constitution of the seasons, and various states of the atmosphere, which immediately preceded its prevalence in this city. The winter, it may be remembered, was very open and mild; the spring cold and late; and the summer very dry and hot, till the 8th of July, when the chilling north wind began to blow the seeds of death among its inhabitants for three successive days, and ushered in a period of heats and colds suddenly alternating with each other, accompanied with moisture from the clouds and storms, that always characterize a season of sickness and of death.

The weather about the end of spring became suddenly warm and sultry, attended with a severe drought in the months of May and June, and occasional showers to water the earth in different parts of the land.

In the open, moist winter, many severe peripneumonies, pleurisies, quinsies, catarrhs, coughs, consumptions, lethargies, fevers, apoplexies, rheumatisms, headaches, giddiness, and other inflammations, occurred to molest the inhabitants of town and country. In the spring, agues, measles, anginas, epilepsies, hæmorrhages, quinsies, catarrhs, and other vernal inflammations greatly prevailed. In the summer, the heat and drought of the weather produced many cases of cholera morbus, insulations, congestions in the brain, apoplexies, bilious and ardent fevers, fluxes, indigestions, and obstructions of the abdominal viscera.

To prove, that all these diseases arise from heats and colds of the atmosphere, personal exposure and imprudence, fatigue, violence, passions of the mind, cold bath in a heated state of the body, bad aliment, luxuries, &c., in their various forms and degrees of application and operation, I have only to adduce the incontestable evidences of their proceeding exclusively from these very same causes, in those specified seasons of winter, spring, summer, and autumn, particularly the latter, when the bodies of men are wholly predisposed to epidemic distempers.

In doing this, it seems absolutely necessary to show, at one view, the nature of the weather, and the relative degrees of heat and cold, moisture and dryness, calmness and tempestuousness, during the four seasons of winter, spring, summer and autumn, by giving a

register of the weather, to exhibit the constitution of the seasons, the temperature of the atmosphere, and various states of the heavens, in every given day of the year. It is also expedient for me, in particularizing every variation in the temperature of the atmosphere, on every given change of the weather, to point out the great difference of the heat in the day and in the night, and to specify the number of cases of fever, occurring in consequence of these great and sudden changes of the air, as we proceed in our illustrations, in order to manifest the virulence of the common and general causes of epidemic inflammations of the vitals of the body, and the existence and influence of personal and particular causes, which may operate on the different classes of men, in different circumstances and situations, to exhibit all the variations in the number and fatality of cases, in the different parts of the city, and among those families who have suffered by its ravages.

In contemplating this new subject, the existence and influence of the general and personal causes, it is necessary, also, to mention the various circumstances and conditions of the atmosphere, that co-operate with heat and cold to produce the disease under consideration, as, the density and rarity, the calmness and tempestuousness, the humidity and dryness, the serenity and cloudiness; the light and darkness, for instance, greatly add to the influence of the hotness or coldness of the surrounding medium, or the circumambient air, in every part of the world.

It appears necessary, also, to consider the circumstances of the local situations, whether on high, dry ground, or in low valleys, whether in places confined from all cooling breezes, or which look towards the burning sun, where the heat by day would drench the inhabitants with sweat, and the dews of the night would chill them, in the autumnal season of the year. In all low, swampy countries, the diurnal heat evaporates the water, and the nocturnal cold, alternating with it, condenses it into chilling dews, which renders the air in the night colder than in high places, and greatly increases the number of cases of visceral inflammations. This is the great cause of inter and remittent fevers being so abundant in such damp, cold situations. The want of ventilation, in all such places, allows the copious vapours, elevated in the day, to fall to the ground in the night, in the form of dews, which render the air tenfold more cold and chilling for the bodies of men, than dry air, hence it becomes most injurious to the health of men. In the mornings, we generally see a dense fog of humid vapours pervading and filling up all the hollow and low places of the country, and we observe the east wind to bring cold, damp, raw vapours from the ocean; because the intense and continued heats of the sun cause the great moisture in the air, by the vapours which they raise and suspend in the atmosphere, from the waters of marshy grounds, or the ocean; and, during the night, in the absence of the sun's rays, or in cloudy weather, these watery exhalations precipitate towards

the surface of the earth in cold dews or rains. And it is well known to the inhabitants of all hot climates, that the damp, chilling air of the nights, alternated with burning heats of the days, is the most dangerous of all states of the atmosphere for producing fevers and fluxes of the most fatal kind. The differences of the temperature of the atmosphere, between the nights and days, also receive additional degrees from the sudden and great changes of the winds and conditions of the weather, such as the south and north, east and west winds, dryness or moisture, &c., which seem to increase or diminish the effects of the vicissitudes of the atmosphere. The qualities of the common air, however, are not altered by heating and cooling, or by rarefying and condensing its material vapours; combustion and respiration, putrefaction and fermentation alone are capable of contaminating the air, by destroying its oxygen and producing hydrogen, which never happen on the face of nature in a degree destructive to animal life. It is only in confined rooms, houses, wells, &c., not on the surface of the earth, that a dangerous defect of oxygen and excess of noxious gas exist, to poison the race of man.

We proceed, therefore, to show the causes of all febrile diseases, existing in the states and vicissitudes of the atmosphere and revolution of the seasons, in all the variations of hot and cold drought, moist and dry heat, humid and dry cold, calm and stormy state of the air, attended with sudden and great transitions of these, in all the changes of the temperature and condition of the atmosphere. Here I might cite the authorities of many ancient and modern physicians to prove, that all epidemic and endemic diseases originate in the constitution of the seasons, the great variations of the temperature, and the different conditions of the atmosphere, preceded or followed by the opposite extremes of their sensible properties as heats and colds, dryness and moisture, rarity or density, &c., of the materials of water, earth and air. Hippocrates and Celsus considered the seasons, with their different effects on the bodies of men, the great source of diseases, as well as the various kinds of weather in them, the great co-operating causes in their production. "Ex tempestatibus vero optimæ æquales sunt, sive frigidæ, sive calidæ: pessimæ quæ variant maxime; quo fit ut autumnus plurimos opprimat. Nam fere meridianis temporibus calor; nocturnis atque matutinis, semulque etiam vespertinis, frigus est. Corpus ergo et æstate et subinde meridianis caloribus relaxatum, subito frigore excipitur," says Celsus, in imitation of the parent of rational medicine, who desired all his followers to consider the positions of regions, the changes of the winds, the transmutations of the weather, and conditions of the seasons, "*regionum positiones, ventorumque mutationes, et tempestatum transmutationes, annique conditiones,*" whence all epidemic and endemic diseases proceed in all climates of the earth. But, as my immediate purpose is to show the manner and way in which the past epidemic arose and

progressed from these identical and various causes, in co-operation with some others which we shall afterwards mention, I go on to observe, that many cases of this same disease, commonly called yellow malignant fever, happened from those causes, previous to the time in which the physicians and Board of Health excited the alarm respecting the prevalence, and mortality in Rector-street, which will tend to manifest the pre-existence of the distemper in our city, during the months of May and June, from the general and particular, accidental and personal causes, especially the nocturnal air, changes of temperature, the action of solar heat, intemperance, fatigue, passions of the mind, injuries, and aliments.

On the 22d of May I was called to attend a man labouring under bilious remittent yellow fever, produced by fatigue and exposure to cold rains, and consisted of an inflammation of the stomach and intestines, accompanied with a total obstruction of the bowels, perpetual vomiting of bilious matter, pains in the head, back, and limbs, &c. which indicated the nature and seat of local affection.

On the 25th of the same month, I was called to attend another man, who laboured under vehement fever, arising from a deep seated inflammation of the lungs, produced by cold, in nocturnal exposures and liquors.

On the 27th of May, I was called to attend another person, a young man, labouring under unequivocal symptoms of yellow fever, arising from cold nocturnal air, blowing in at an open window upon him during sleep, in a cold open wooden house in Front-street, in whom the local inflammation was seated in the liver, which was attended with a severe remittent fever, yellowness of the skin, bilious vomiting, pains in the head, back, and limbs, soreness of the epigastric and right hypochondriac regions on pressure, &c. which clearly manifested the nature and seat of the disease in the body.

On the 28th of May I attended an aged lady, who laboured under a most severe attack of burning fever, consisting of a strong hard pulse, pains all over the body, especially in the head, back, &c. which demonstrated to me the presence of deep seated inflammation of the lungs, &c. All these persons recovered by copious bleeding, purging, sweating, and nourishment.

On the 10th of June I bled a man in the incipient stage of yellow fever, consisting of an inflammation of the stomach, produced by continual intoxication. And was called, on the same day, to visit a young woman dying with congestion of blood in the brain, produced by the solar rays, which was very prevalent at that time of the year, in the forms of lethargy and mania, marked by a total absence of fever, and ushered in by a trivial headache, and a slight remittent feverishness, which was generally unnoticed by the patients themselves, and never excited any alarm among their relations.

On the 20th of June I was called to attend a child, labouring under the most unequivocal symptoms of yellow fever I ever saw;

where the inflammation I judged to be in the intestines, produced by cold night air, and an accumulation of putrid excrements in the bowels. On the 22d, I was also called to attend another young person with violent fever from an inflammation in the lungs.

On the 24th, I visited an infant, labouring under violent fever, arising from an inflammation of the lungs; and attended another person having it from the same affection of the bowels; and a third from inflammation of the throat on the 1st of July; and a fourth person on the 3d with ardent fever from the same affection in the reins; and another on the 6th with inflammation of the heart; and a young child on the 11th with inflammation of the windpipe; all of whom recovered by the use of the lancet, in the course of a few days.

Besides all these unequivocal cases of compound inflammation of the viscera, head, chest, and abdomen, I might enumerate many others of as marked characters in the joints, &c. which gradually, as the season approached towards autumn, assumed the identical complication of morbid phenomena, constantly observed in the disease known by the vague name of yellow fever. But I deem these facts sufficient evidences of the pre-existence of yellow fever in the two months of May and June, preceding the alarm excited by the verbal rumours of contagionists, and infectionists, and the official reports of the Board of Health; whereby we may be fully satisfied that it is the endemic and natural production of the climate and season of the year, and that it commonly originates in the great and sudden vicissitudes of the weather, and variations of the temperature of the atmosphere, &c. applied to the bodies of men, in their various circumstances and situations. The great reason, why so few cases of yellow fever occurred in May and June, is the greater difference of the temperature between the days and nights in autumn, and the greater equality of heat during the summer months, (as will be found by comparing the relative degrees of heat, indicated on the thermometrical scale of Fahrenheit,) than happens in the autumnal months of August, September, and October, for a few sporadic cases only occurred during the summer, in comparison to the numbers generated by the great and sudden changes of the temperature of the air, that happened between the days and nights, as well as between the days and days, and nights and nights, from north and south, east and west winds, rains and cloudy days, in the autumnal season of the year. The differences of the temperature of the atmosphere, between one day and another, and between the days and nights, or on the prevalence of the cold north and damp east winds, rains, &c. were very great and sudden in autumn, and consequently, hundreds of cases occurred on the approach of and during that perilous season, from the general and particular, occasional and personal, accidental and moral causes, co-operating in greater variety and force to produce these compound inflammations, generally named yellow malignant fevers, in all the abundance and virulence we have always observed in the autumnal season of the

year. Besides all these external causes of the compound inflammations under consideration, a greater predisposition to them exists in the human frame in the autumnal than the summer season of the year, as the natural effects of long and great heat and drought, improper kinds and quantities of foods and drinks, which create habitual costiveness, depravation of the secreted humours in the alimentary canal, weaken the bodies of persons, open the corporeal pores, &c. and thence render them more liable to the invasions of those distempers. And to evince clearly the natural and domestic origin and production of this compound disease, commonly called yellow fever, as it originates in the states and changes of the atmosphere, primarily in creating this predisposition, and secondarily in exciting the local affection itself, independent of infection or contagion in any given case, I might here produce one hundred unequivocal cases of yellow fever, excited by the variations of the temperature of the atmosphere, in all the different changes of the weather, from cold north and east winds, cold rains, currents of cold air, cold bath, cold dampness of houses and places, night air, immediately alternated with hot south winds, and calm sultriness of the air preceding the application of cold, and occasionally from fatigue, intemperance, violence, passions of the mind, improper food and drink, whence all modifications of the disease proceed; but this digression in our preliminary observations, would extend our present undertaking beyond its proposed limits, and I shall only show briefly wherein this said predisposition consists, which will convince all, that very slight causes will excite the disease in those persons whose bodies are fully predisposed to be easily affected by the application of cold.

The great parent of rational medicine seems to have been well acquainted with the effects of the weather in the seasons of the year, when he observed, from accurate experience and observation, "*Sin aquilonia tempestas fuerit, tusses movet, fauces exasperat, alvos indurat, urinam supprimit, lateris et pectoris dolores excitat.*" (See Aphorism v. section 3d, of his works.) And Celsus adopted the sentiment and language, when he proceeds to state the effects of the south as the reverse of the north winds, "*Auster aures hebetat, sensus tardat, capitis dolores movet, alvum solvit, totum corpus efficit hebes, humidum, languidum; Ceteri Venti, quo vel huic vel illi proposiores sunt, eo magis vicinos illisve affectus faciunt.*" *Tempestates "vero optimæ æquales sunt, sive frigida sive calida, pessimæ quæ variant maxime,"* &c. And the accurate observer Huxham, seems to have attested the accuracy and truth of these observations, when he said, that "these inflammatory disorders seemed to have had their origin from the long continued coldness and dryness of the atmosphere," which had condensed the corporeal fibres, obstructed the perspiration, determined the humours to the internal organs of the body, and excited deep seated inflammations of the vitals. "A very moist and cold temperature of the air, says Hux-

ham, always creates catarrhs, coughs, and other disorders" of the mucous and serous membranes, as quinsies, peripneumonies, croups, fevers, and fluxes, in all seasons of the year, especially in the summer and autumn.

"*In ære considerandum quanta insit caliditas, frigiditas, crassitudo, tenuitas, siccitas, humiditas, an plenior, an vero minor et copiosior. In quibus quendam mutationes et ex quibus fiunt, quomodoque se habeant animadvertere oportet,*" said Hippocrates, see section 8, 18, of his book on Epidemics, and the peculiar kinds of weather which predispose the bodies of men to be easily affected with a succeeding cold state of the atmosphere in the different seasons of the year, is beautifully illustrated by him in the 3d section of the 3d book on Epidemics, in the following language, "*Annus austrinus, imbris abundans, atque in totum aventis tranquilluss fuit. Quum autem paulo superioribus anni temporibus, justo majores siccitates vighissent sub Arcturum, spirantibus austris multum pluit. Autumnus obscurus, nebulosus, cum aquarum abundantia, hyems austrina humida et levis. Longo vero post solis conversionem intervallo, juxta Æquinocium, extremæ hyemis ad fuerunt; jamque sub Æquinocium ipsum Aquilonares venti cum nivibus non ita diu spiravere. Ver rursus austrinum, a flatibus quietum, aquæ multæ et continentes ad canem usque. Æstas verum calida, æstus præfocantes magni. Anniversarii venti (etesias vocant) pauci disjunctim spiravere. Sub Arcturum rursus spirantibus aquilonibus, aquæ multæ;*" which plainly signifies that the most singularly and universally pestilential constitution of the seasons consist in heats and colds, dryness and moisture, &c., out of season, or in great excess, southerly and northerly winds blowing great changes of the temperature of the atmosphere and alterations in the states of the weather, in all seasons of the year, which bring hosts of rapid and mortal diseases, by the continuation, the energy, the succession, the occasions, and the magnitude of their powers, in full operation. He considered this pestilential or injurious constitution of the seasons, and the variations of weather prevailing in them, to be the original and universal source whence all epidemic diseases proceed to infest the inhabitants of the earth; for the bodies of men are drenched with profuse perspiration in such constituted summers, are emaciated, enervated, and wholly predisposed to be affected by the cold winds, rains, nocturnal air, accompanied with moisture or dryness, which succeed the heat, in such a notable degree, that the most superficial and cursory observers may easily see the perpetual and uniform effects of these causes in the natural production of diseases. Hence the necessity of all students of nature observing the positions of regions, the sites of habitations, the changes of the winds, the states of the atmosphere, the transmutations of the seasons, and the constitutions of the years, that they may be prepared, from genuine knowledge and experience of the true causes of diseases, to unfold the source of all general pestilences that pervade the habitations of men.

From the preceding observations we might naturally conclude, that the different states and conditions of the atmosphere, in the different seasons of the year, induce all cases of the compound disease under consideration; but this generalization of the subject would leave us in ignorance with respect to the positive effects of these causes on the bodies of men, in the production of their diseases. Because it is not the comparative degrees of difference of the temperature of the atmosphere, accompanied with a dry or humid, obscure or serene, rare or dense, calm or tempestuous, pure or impure state of the air and weather, in different days or nights, that constitute a sickly season, but it is the opposite extremes of heat and cold, in the days and nights, superadded to the difference of the comparative temperature of the atmosphere, in different days and nights, occasionally and accidentally, successively and alternately conjoined with the various conditions of the atmospheric medium, that constitute a fatal season of epidemic diseases.

To illustrate the subject more fully and clearly, we shall here compare the diurnal heats and nocturnal colds, which suddenly alternating with each other, accompanied with dryness or moisture, south or north, east or west winds, to increase their intensities, in order that we may see and understand the instantaneous, real, uniform, visible, and unequivocal effects of the different variations of the temperature of the atmosphere, in producing epidemic diseases. The heat of the solar emanations is suddenly abstracted from the earth and surrounding materials, during the nocturnal absence of these rays, according to the influence of an eternal law of nature, and the temperature of the animal body, surrounded with colder materials, especially the aerial vapours and currents of air, &c. aided by the spontaneous escape of animal heat in a colder medium, is too rapidly reduced, and the fluids which used to transpire through the open pores, stagnate in some of the internal parts of the system. The mercury in the thermometer often falls from 95° to 55° , and rises from 55° to 95° , making a difference of 40° in the course of a few days, or even hours, which gives the sensation of cold to all persons exposed to it, or even induces immediate shivering and a febrile attack, as the dangerous effects of great vicissitudes of the weather, in obstructing perspiration, and inducing disorganizations of the vital organs. The very alterations of the temperature of the atmosphere between the nights and days, during the summer and autumnal months, are sufficient to create the dreadful malady, after copious and profuse perspiration, long costiveness, fatigue, &c. About the end of summer, the weather, especially during the night, prevalence of north winds, cold rains, &c. is most productive of compound inflammations and bilious disorders, which commonly predominate in these seasons of the year.

During the months of May and June the heat was nearly equal in the nights and days, at least we experienced no inconvenience nor injury from the slight and temporary variations of the tempe-

rature of the atmosphere, to injure our bodies, and a few accidental and occasional cases only occurred to premonstrate the prevalence of it in the autumnal months, when the cold evenings, nights and mornings, cold showers, north and east winds, heavy dews, &c. universally prevailed, and produced epidemic diseases. The causes which I have observed to produce cases of yellow fever in the hot summer months, were cold bath, exposure to cold showers of rain, or to a current of air, sleeping under an open window, or in a cold damp place, or in the open night air, and strokes of the sun, violence, intemperance, fatigue, &c. which produced as unequivocal cases of yellow fever as ever were known in the city, since its foundation. But the principal injurious effects of the summer heats are clearly seen in the predisposition of the bodies of men to be easily affected by the autumnal colds that follow. For we perceive the alvine excrements retained and accumulated; bile becoming redundant; saline matters carried into the blood; the secretions vitiated; the abdominal viscera obstructed; the brain clouded; the whole frame emaciated and completely prepared to receive the hurtful impressions of sudden and great reductions of the atmospheric temperature, which generally happen in the end of summer or beginning of autumn, to create cases of yellow fever in great abundance. I might go on to particularize the constituents of this predisposition of the bodies of men, in tropical climates, to epidemic distempers, but, as I have elucidated this subject in another disquisition on the causes and effects of the causes which create that predisposition, I shall pass it over by mentioning, that this liability to such an epidemic disease as yellow fever, consists in the relaxation of the corporeal fibres, in long habitual costiveness, suppression of urine, openness of the cuticular pores, obstructions of the abdominal vessels, injury of the coats of the stomach and intestines by acrid and putrid matters, a redundant secretion of bile, a vitiation of all the secretions, especially of the gastric and pancreatic fluids, and a contamination of the blood, which are induced by the long heat and drought of the summer months, improper kinds of food and drinks, &c.

In the beginning of July it rained in the evening, and the two days following. The mercury, at 7 A. M., stood at 75° , at 2 P. M. at 95° , and so it continued, in the ratio of 20 degrees of difference between the heat at noon and in the morning, till the 9th of the month, when the cold north wind began to blow, and lowered the temperature of the atmosphere to 74° at noon, and 70 in the morning, from that of 90° , making a difference of 16 degrees between the days, which, being superadded to the difference of 20° in the nights and the days, would make a vicissitude of 36 degrees, between the diurnal heat of the 6th, and the morning coolness of the 9th. That cold north wind was very chilling, and obstructed the perspiration on the bodies of all persons exposed to its influence, and produced many cases of fever, in different parts

of the city. Five of those cases only were reported to the Board of Health. The temperature of the air was again reduced to 69 in the morning, and rose to 87 at noon, making a difference of 18 degrees in 12 hours; which, being superadded to the increase of the temperature in the day, 8 degrees, produced a vicissitude of 26 degrees, a keen, dry cold, for two days, when it rained, and reduced the morning and noon temperature to 73°, attended with a cold northerly state of the air.

This change of the temperature was so very chilling and unfriendly to the bodies of men, that we found winter clothing and good fires in our rooms, very comfortable to our feelings, and preservatives of our health, during the prevalence of such cold north winds and rain, immediately following a close, calm, sultry and southerly state of the air, and increased the number of cases of compound inflammations or fevers, which had begun to exhibit their bilious and congestive symptoms in the preceding summer months. Indeed, the sudden and great reduction of the temperature of the air, from a heat of 90° to a coolness of 70°, accompanied with rain, in the course of two or three days, was so remarkably chilling, that I could not refrain from observing to some of my friends, who noticed the circumstances of the cool and pleasant change of the weather, "that this coolness, coming suddenly after great and long heat and drought, which we experienced previous to its occurrence, will, I fear, be the cause of the deaths of many thousands on the continent of America; this is the very kind of weather and changes of the temperature of the atmosphere, that I have always observed to produce yellow malignant fevers, dysenteries and bilious disorders, in Europe, Asia and America; I should not be surprised to hear of a great increase of bilious ardent fevers, occurring in different and distant parts of the city, in consequence of this sudden and great vicissitude of the atmosphere; just mark the effect of this coolness in producing sickness, and increasing the bills of mortality." Two or three days had only elapsed, from the time of making this observation, in conversing about the causes of diseases from the temperature of the air, ere rumours were spread of the yellow fever having commenced in a northern and exposed part of our city, the side first subjected to the powerful influence of the cold north wind; and in which the few accidental, particular and personal cases happened, to fix the attention of the infectionists and contagionists, who either attended or saw them, in all their inflammatory violence and gangrenous malignancy, and to call the attention of the Board of Health to the rise, progress and ravages of yellow fever, in that unlucky spot of our salubrious city.

While the Resident Physician was denying the existence of yellow fever in our city, in opposition to the opinions of the rest of the physicians, the dangerous weather and the fever progressed, and soon decided the controversy. The mercury in

the thermometer stood at 72° , in the morning, at noon, and at night; and it rained considerably on the 12th, 13th, 14th and 15th; followed by a cold, northerly state of the atmosphere. The nights were equally cold from the 12th to the 15th; but the heat of the days gradually rose from 70 to 90° , and from the 15th to the 17th of July, the nights became colder and colder. During these two cold periods which commenced on the 9th and 16th, five cases of malignant fever occurred in Rector-street, according to the report of the Board of Health, including all those reported for six days immediately following the great change from heat to cold. But those were not the first cases that happened in the city this season; to my knowledge, thirty cases occurred previous to those reported by the Board, and were denominated by the vague and delusive names of bilious, remittent, and typhus fevers, dropsy of the head, cholera morbus and agues.

To be convinced of these facts, look into the bills of mortality for May and June, and there count the number of deaths by fevers, cholera morbus, &c. This exactly accords with the indisputable experience of Dr. Rush, and other accurate observers of the weather, who have proved the annual and gradual approach of yellow fever, in the months of May, June, and July, and its general prevalence in the months of August, September and October, according to the energy, the continuance, succession and multitude of the predisposing and exciting causes. A few bilious remittent fevers appeared towards the close of the month, namely of July, says Dr. Rush, in 1793; and several intermittents, &c., occurred and became uncommonly obstinate, in June, &c. From the inflammatory complexion of the diseases of the spring, and of the beginning of June, I expected the fevers of summer and autumn would be of a violent and malignant nature: and Dr. Physick met with an unequivocal case of yellow fever on the 6th of June, 1794, and from that time till October it continued to rage with great violence and mortality. He further states, that the yellow fever commenced in May from the cold and wet, and warm and sultry weather alternately prevalent in 1795. That it occurred in July in 1797, as it has done in New-York this season, from sudden cold after long heat and drought; in the beginning of April, in 1798; in April in 1799; in June in 1800; in July in 1801; in July in 1802; in June in 1803; in June in 1804; in April in 1805; on the 21st of January one case occurred with black vomit in 1806; and all from cold wet and cold dry weather, alternating with a hot, dry or moist atmosphere, diurnal heats and nocturnal colds, north or east winds, showers of rain, intemperance, fatigue, insulations, violence, passions of the minds, &c., especially when the mercury varied between 80 and 100 degrees of Fahrenheit's scale. These are strong evidences, that yellow fever is confined to no particular season of the year, that yellow skins and

black vomit occur in the winter, and that its nature is inflammation of some of the vital organs of the body.

But to return from this digression, we go on to remark, that it rained and thundered on the 18th of July, immediately after two very cold, dry days, which produced many cases of fever, and changed the state of the atmosphere into its usual state of cold nights and hot days. On the 21st, the heat again began to decrease, and continued to fall till the 27th, when the mercury stood at 57 in the morning, and 77 at noon, making a reduction of 17 degrees of heat in the nights, and 14 degrees in the days; which, being superadded to the difference of temperature between the days and nights, 14 degrees, will make a vicissitude to the bodies of men of 45 degrees: nine cases of fever were reported to the Board of Health, from the 22d to the 27th, which were not a third of the cases that then existed in different parts of the city. Here I would again remark, that it was not the trivial difference of the heat in a given number of days, nor the difference of the coldness of a given number of nights, that induced our sickness; but it was the immense difference produced by the sudden reduction of the temperature of the atmosphere in the nights, superadded to the diminution of the heat of the days, making a variation to the bodies of men of 30 or 40 degrees, that created so many cases of the disease. For the thermometer indicated a coolness of 55°, during the night of the 27th, and a heat of 95° at noon on the 28th, making a difference of 40 degrees in the temperature, in two days; which sudden and great cold, alternating with great heat, chilled the bodies of men, and produced the disease under consideration. Herein is the great mystery of the causes of diseases revealed in the presence of the most superficial observers. It must be observed, however, at the same time, that other occasional, accidental, particular and personal causes, such as intemperance, fatigue, violence, indigence, passions of the mind, falling into the water, exposure to rain, solar rays, &c., operate in the production of many cases of the disease. From the 22d to the 27th too, the temperature of the air was lowered by clouds, rains, thunder, north winds, &c., and the same immense difference of the temperature occurred continually between the days and nights, and nine cases out of many of yellow fever were reported to the Board of Health, during that cold, and variably hot period.

From the 27th of July to the 1st of August, the weather was uncommonly dry and cold, especially in the evenings, nights and mornings; but, as the heats of the days were not great, alternated with an opposite coldness of the nights, constituting a sudden and dangerous vicissitude, very few cases occurred in the city. The heat of the days averaged 74 degrees, and the coolness of the nights indicated a temperature of 64 degrees, and the difference of temperature between the different days and different nights, was so trivial,

that no cases seemed to be produced. Hence we may clearly see, that the gradual reduction of the temperature of the days and nights, and the equality of the coolness or hotness of the nights, produce no cases of the disease. It was the sudden and great variation which happened between the days, and the sudden coldness which occurred in the nights, after hot days, that created this epidemic distemper. It was the sudden reduction of the temperature from 90 to 60 degrees in two or three days, or in twelve hours, superadded to the 10 degrees of reduction occurring in the nights, which produced the fever, in different parts of our city. Twenty cases of this fever were reported to the Board of Health, during the month of July, and the places of their occurrence were different and distant from the mansion of supposed infection; some occurred in Rector, Washington and Greenwich-streets, and others happened in Beaver and Cliff-streets. Many other cases, however, to my knowledge, occurred in more distant parts of our city, and were concealed under the vague names of typhus, bilious remittent, &c., fevers, cholera morbus, dropsy of the head, &c., and were never reported to the Board of Health. All those were cases of the identical epidemic disease, although Dr. Quackenboss, the resident physician, and others, should call *black vomit* "molasses and water," and *yellow fever* "liver complaint," or "typhus or bilious remittent and other fevers," which prevarications and equivocations were circulated to deceive the people with respect to the identity of those modifications of fever, under those various names, with the yellow fever, in order to support their own absurd doctrine of infection, and to injure the reputation of those physicians, who might maintain the truths and facts of the occurrence of many cases in places where no infection existed, and in persons who never had been in the supposed "infected district" during the season.

The temperature of the air on the 2d of August, in the morning, was 60 degrees, and at noon 80 degrees, and by adding the 5 degrees of difference of the heat of that and the preceding morning, it makes a reduction of 25 degrees, which produced some few cases. But on the 3d it rained, and the temperature of the 4th, in the morning, was 70 degrees, and at noon 90 degrees, and the 10 degrees of difference between the days, superadded to the difference between the days and nights, produced a vicissitude of 30°. On the 5th, the diurnal temperature in the shade was 78 degrees, the nocturnal coolness was 68, and on the 6th, 55 and 70 degrees, which made a difference of 20 degrees of heat in the days, and 20 degrees of difference in the coolness of the nights, making a vicissitude of 40 degrees to the bodies of men, in the short space of two days. Fifteen cases occurred in this period of sudden changes, which commenced on the 4th, and ended on the 6th of August, reckoning six days from the beginning of the cold vicissitude to the sixth day thereafter, which allows sufficient time for the physi-

cians to report all the cases that might happen in the first day, and which is the great day in which the disease terminates in death or life, when we would have again to begin to count the product of a new change. (See TABLE.) From the 5th to the 8th the days and nights were very cold and dry, the north winds were very chilling to the bodies of men, and the same average of cases continued to occur every day, and the greatest number to be reported on the 6th day after the commencement of the sudden cold change.

The comparative degrees of heat of the days and coolness of the nights, occurring from the 8th to the end of the month, were uniformly trivial, say three or four degrees of difference, and consequently had no influence in the production of the eighty-eight cases reported to the Board of Health, during that period; but the immense difference of temperature continually occurring between the days and nights, the most dangerous of all variations, produced 2, 3, 4, 5, 6 or 7 cases every day in succession. The heat of the days was alternately 20 degrees higher at noon than in the morning, which difference of temperature, superadded to the 10 occasional degrees of reduction happening between the different days and different nights, makes a vicissitude of 30 degrees to the bodies of men, and this is the great cause of the increased numbers of yellow fever cases, during the fatal month of August. Cold north winds often blew; clouds, and rains, and thunder occurred; dryness and moisture often happened to increase the sickness during that month of the autumn.

In the month of September the great reduction of the diurnal and nocturnal temperature, together with 20 degrees of difference between the days, constantly occurring and alternating with each other, produced a daily report of 4, 5, 6, 7, 8, 9, or 10 cases, besides all the number of cases, which were never reported to the board, concealed under the various names of re and intermittent, bilious and typhus fevers, &c. Besides all this difference of the temperature of the atmosphere between the nights and days, the mercury fell and rose several times very notably in the course of the month. Another change began on the 31st of August, and the reports of the product of that vicissitude, together with the nocturnal increase of the disease by the cold, ended on the 5th of September, the day on which the cases produced by the diurnal reduction of the heat ended, another great and remarkable change or diminution of the temperature occurred to recommence a daily increase of the reports. Thirty-five cases were reported as the product of the hebdomadal and nocturnal cold changes of the temperature of the air. And it was very observable, that 10 cases were reported on the last of the six days, and the cause of this was very obvious to me; it was because the generality of fatal cases died about the sixth day, and physicians generally reported the most of them the day before their death, whose reports would fall on that very day. Here I would remark, that the temperature gradually rose after

every sudden and great reduction, till another sudden and great change in the air by the north or east winds, rains, tempests, &c., again reduced it. When the temperature of the air gradually fell, very few cases occurred, because the human body had time to be cooled and to accommodate itself to the great change, without injury. The effects of the suddenly reduced temperature, on the 5th and 6th, were 34 cases of the fever, the reports of which again ended on the 11th, when 10 cases were also reported on that day, finishing the reports of the increased product of the change.

On the 11th, clouds and rain, and a great reduction of the temperature occurred, which great change, together with the nocturnal coldness, alternating with the diurnal heat, during the following days, produced 36 cases of fever, according to the official reports, and according to our knowledge, about 60 cases, with the usual increase on the last day of six after the change, 13 being reported on that fatal day, which happened on the 17th of the month. It is then certain that the reports suddenly decreased after the 6th day all at once, and that, in consequence of another sudden and great temporary reduction of temperature, the number of cases again began and continued to increase daily, and arrived at the highest number on the 6th day, ending the period allowed for them to be all reported. The average of the degrees of the temperature on the 17th and 18th, was 53° in the shade; and the four following days and nights were also very cold, which produced, in the course of six days, 43 cases of the disease, gradually increasing the reports till the 23d, when 10 cases again concluded the series; but the cold state of the atmosphere having continued for four days and nights successively, the daily reports exhibited a continued and increased number of 9 and 10 cases a day, for four days, even till the 26th of the month, when the reports again exhibited an average of four cases daily, to the end of the month. (See the annexed table of the relative degrees of heat and cold, and the increase and decrease of the number of cases in the official reports of the board.) The real causes of the great sickness and mortality in the month of September, were the great differences of the temperature of the atmosphere between the nights and the days, alternated with each other, and the frequent and great reductions of the general temperature of the air by the cold north winds, rains, &c. after the long heat and drought of the season. The feelings of all men might have convinced them of the facts and truths of these observations. For, when the cold of the days and nights, after very hot days, was equal, the number of cases were also nearly equal in the reports, as you may find by looking over the annexed register of the weather, during the whole month of October, and the eight last days of the month of September, which cold, uncomfortable weather produced 140 cases of yellow fever, according to the official reports. During that time the degrees of the atmospheric temperature averaged 55, varying between 44 and 75° , in a given number of

days and nights, and so the weather became gradually cooler and cooler, till the beginning of November, when the mercury indicated a coolness of 40 and 50 degrees, considerably below the heats and colds that are deemed necessary to create the inflammatory affection, commonly called yellow fever. The temperature of the atmosphere of 80, 90, and 100° being requisite to predispose the bodies of men, and the sudden reduction of it 20, 30, 40 or 50 degrees, being necessary to excite the local inflammations, which characterize the different cases of the disease.

Here I might cite the authorities of accurate observers of the great and sudden changes of the weather, as the immediate causes of febrile distempers; but, as those self-evident facts must have impressed the minds of all men with a full conviction of their influence and effects, I shall only adduce a few unequivocal testimonies to prove the universal and evident operation of the heats and colds of the weather in the production of all these diseases. The correctness and accuracy of this observation, viz. that the vicissitudes and inclemencies of the weather, in autumn, are the causes of yellow, bilious and malignant fevers, are fully attested by the experience of the ingenious and celebrated Dr. Rush of Philadelphia, who observed, that the exciting causes produced the predisposition and the disease also, where no predisposition previously existed in the body, and that the exciting causes were heats and colds, hard labour, intemperance, passions of the mind, violence, &c. but especially the great and sudden cold changes and inclemencies of the weather, intemperance and fatigue, &c. Every change of the weather, said he, that was less than that which produces frost, evidently increased the number of sick people." This was obvious after the 18th and 19th of September, when the mercury fell to 44°, and the hopes of the citizens received a severe disappointment upon this occasion, for the general expectation was that the change of weather would have checked the disease. The same increase of the number of the sick was observed to follow the cool weather which succeeded the 6th and 7th of October, on which days the mercury fell to 43°. After the body has been heated by violent exercise, a breeze of cool air sometimes excited the disease, in those cases where there had been no change in the temperature. The frequent and sudden changes of the air from heat to cold, render it unsafe to sleep with open windows during the autumnal months. Those inhabitants of Pennsylvania who have acquired the arts of conforming to the changes and extremes of the weather, in dress, diet, and manners, escape most of those acute diseases which are occasioned by the sensible qualities of the air.

Hippocrates, Celsus, &c., seemed to have been fully acquainted with the immense influence and effects of the air, and changes of the weather, especially from heat to cold, ages previous to the days of Rush, Sydenham, or Huxham, who were eminent modern discerners of the salubrity and insalubrity of the vicissitudes and in-

clemencies of the atmosphere. Huxham, indeed, has given us many notable instances of the effects of meridional heat and nocturnal cold on the bodies of men, who have been exposed to their operation. Persons, who are alternately relaxed and braced in their bodies, in the summer and autumn, and by the hotness and coldness of the changes of nights and days, in tropical climates, cannot long enjoy health of body; and it is evident to all, that a sudden reduction of the temperature in the nights, from 70 to 60 or 50, constituting a change of 30, 40 or 50 degrees of difference, in the course of two or three days, will greatly increase the number of cases of compound inflammations; I mean this general and universal cause, cold after heat, suddenly and powerfully operating on the bodies of men, produces the diseases under consideration, in great abundance, on every great and sudden change of weather, or reduction of the atmospheric temperature, in co-operation with other causes and circumstances, that concur to produce the same morbid effects. This brings me to enumerate the natural and moral causes of these febrile distempers.

Northern exposures of the houses and bedchambers of persons, of their bodies to the cold north and east winds, and to rains; to the cold damp of cellars, marshes, houses, ships and other places; to currents of air; to the nocturnal cold dews, or burning rays of the sun; especially during sleep, after hard labour, fatigue, profuse perspiration, passions of the mind, a hearty meal, parturition, great evacuations, intoxication, long watching, famine, violence, &c., will actually predispose and actively produce the diseases, in all its various modifications. I might here name 80 or 90 persons, who contracted the disease this season from the causes above enumerated, principally cold, under these circumstances and accidents; but, as their existence and influence are clearly seen in their evident and obvious effects, I have no occasion to add another sentence on the subject of its causes, and shall proceed to deliver the natural history of this terrible malady, and to compare the different methods of cure, that have been successfully and unsuccessfully employed in this city.

THE HISTORY OF THIS COMPOUND INFLAMMATION,

COMMONLY CALLED

YELLOW FEVER.

As we have proved the existence and presence of inflammation of some of the internal or external organs or parts of the body, in every given case of acute fever, occurring under its most violent modifications, in the autumnal season of the year, in my Review, I proceed to show, that the disease appears under several combinations and complexions of morbid phenomena, according to the seat, violence, continuance and depth of the local injury done by the inflammation, its complications, and the nature of the constitution of its subjects. Here I would observe, that all practitioners, who really desire to excel in the conscientious practice of their profession, ought to inquire into the nature, seat and complications of the disease; and all other circumstances therewith connected, whereby their intellectual knowledge and skill in curing it will be greatly improved. They will be prepared to meet all emergencies and circumstances of their patients, in the best appropriation of remedies to every given period of the disease, and state of the patient. They will be ready to treat all its modifications, in different persons, known by the various seats of the local affection, and in different and curable periods and states of the disease, successfully, under all circumstances whatever.

It would be tedious to particularize every modification of the disease, as it consists of inflammations of the brain, lungs, heart, gullet, throat, diaphragm, liver, stomach, spleen, intestines, reins, bladder, womb, pancreas, peritonæum, joints, and other parts of the body, I shall only refer the reader to my first publication, on yellow fever, and shall proceed to mention several of the most characteristic marks of the compound inflammation itself. If we keep the nature of the disease always in view, we will, at once, know the cause of it, as well as perfectly understand all its multifarious and insidious beginnings and assemblages of symptoms. One case begins with a severe chilliness and shivering, followed by a violent reaction, which again remits and returns in the form of an ague, or continues unabated for four or five days. Another case will begin with a violent burning reaction, and continue in the same state till death or recovery has decided the fate of the patient. A third case will commence like a headach, sore throat, catarrh, indigestion, cough, colic, diarrhœa or dysentery, obstruction of the bowels, common chilliness of the body after dinner, measles, rheu-

matisms, or as the effects and consequence of temulence and gluttony, insolation, fatigue, obstructed menstruation, accidents, improper kinds of food and fruits, &c., and rapidly advances towards a fatal termination. A fourth case will approach with a shortness of breath, like asthma, attended with a white tongue, great prostration of strength, coldness of the body, attended with partial flushes and swelling of the face, &c. A fifth case will commence with slight chilliness and flushing, accompanied with very little pain in the abdomen, or in the kidneys, or about the bladder, &c., and runs rapidly to a mortal issue. Very many cases, however, seize persons suddenly, and advance in a rapid and uniform progress to a dangerous end. Pains sometimes strike through the liver, heart, lungs, diaphragm, stomach, brain, &c., as quick as a volume of electricity; or catch their subjects in the sides or back, with the rapidity of thought, followed by a burning fever, and general disturbance of the animal functions. Delirium or madness, stupor or torpor, are often the first symptoms of this tremendous distemper. Persons are seized in bed, on the streets, at work, walking in the fields and sitting in the houses, at their meals, after a fit of intemperance, much fatigue, sudden fear or anger, injuries, and immediately after exposures to cold, in the forms of north and east winds, rains, currents of air, cold bath, &c. But it generally begins with severe rigours; succeeded by a burning fever and violent pains in the head, chest, abdomen, back, stomach, sides and limbs, attended with an irregular pulse; sometimes the pulse is full, and strong, and rapid; other times it is small, hard and contracted, or thready and undulating. The eyes become red and suffused; the bowels are sometimes obstructed and sometimes loose; violent pains often exist in the sides, back and limbs; and defect of appetite, flatulence, perverted taste, burning heat at the stomach, perpetual retching and vomiting, giddiness, dimness of sight, hoarseness, sore throat, depression of spirits and prostration of strength, stupor or delirium, dryness of the skin and tongue, red, scanty urine, hurried respiration, fretfulness and jactitation, anxiety, sound in the ears, horrific dreams, convulsions or faintings, &c., supervene. These evils are rapidly succeeded, in many cases, by a total indifference to all surrounding objects, faltering imperfection of speech, deep sighing, bloatedness of the face, black tongue, tremors of the limbs, confused watery redness of the eyes, vibices, or dark spots on the body, oozing of blood from the gums, throat, nostrils, or anus; or spitting of it from the lungs, or a discharge of it by stools; stertorous breathing; and involuntary evacuations and convulsions, or perpetual watchings, and sound senses, with a suffocating difficulty of respiration, and death as the inevitable consequences of such accumulation of evils. The most common termination of this disease is with an extreme shortness of breathing, coldness of the body, a vomiting and purging of black matter, loss of pulse, impatient anguish of the countenance, fainting, suffoca-

tutes far milder and more effectual in their cathartic powers, to their utter rejection in practice. Strong clysters, composed of common salt, sulphate of soda, castor oil, sulphate of magnesia, jalap, turpentine, marine water, or aloes and an infusion of senna, or the blossoms of elder, or a decoction of mallows, must be administered at the same time, and repeated every half hour, till copious evacuations are produced, either by them, or the purges received into the stomach; should they have great irritation and uneasiness in the great intestine, we should then inject a gallon or two of tepid water into the bowels in order to dissolve, if possible, the obstinate obstruction of their living and sensible canal. But if the obstruction resists all these remedies, vigorously employed and executed by the skillful head and benign hands of the faithful practitioner, even after they have been continued a sufficient length of time and abundantly repeated, we must, without a moment's hesitation, flee to the great remedy for dissolving these intestinal obstructions; namely, the application of cold water to the lower portion of the naked body. This course of treatment seems to be absolutely necessary; more especially when the most excellent and powerful cathartic medicines have been rejected from the stomach, and all those clysters tried in vain to solve the obstruction. We would dissuade all men from administering matalic quicksilver, or the terrible infusion of tobacco, unless the repeated application of cold immersion and infusion should totally fail with the use of all other auxiliaries, when we might, as a dernier resort, exhibit the infusion, in expectation of solving the spasmodic contractions of the intestines. This brings us to the second part of our method of curation, included in the same indication presented to our view.

31. As soon as we find ourselves baffled in all our efforts to remove the invincible obstructions of the intestines, with the assiduous and vigorous administration of the most powerful cathartics, in the form of potions, pills, and clysters, on account of the incessant vomiting; we must resort necessarily to some other remedy, deemed efficacious in dissolving these obstructions. None in the wide domain of nature can so effectually exterminate such obstructions of this vascular tube, as the dashing of cold water on the belly and lower extremities, in the manner we have

directed in a preceding part of our dissertation. If we had the least apprehensions of any frustration being ever experienced in the curation of intestinal obstruction, with the application of cold water, in any given case, we should wisely prescribe another remedy, which might infallibly educe the stagnated excrements, and solve the obstructions; untill we are defeated to remove them by the application of this remedy, we shall ever persist to urge and employ it in all cases of pertinacious obstructions of the intestines.

33. The second indication of cure in the treatment of this disease is to exonerate the bowels of all their bilious, glutinous, indurated, and noxious contents by the use of purgative medicines. The effects of cathartic remedies in the evils consequent to obstructions of the intestines, are very salutary and beneficial to empty them of all the acrid, putrid, and acid contents; whether hardened excrements, extraneous substances, irritating bile, or terebrating worms. The proposition of this evacuation is founded on the certain facts of hard and glutinous lumps of excrements, or collections of bilious matter being retained and lodging in the folds and valves of the irritable intestines, producing all the evils of pains and spasms, inversion of the peristaltic motion, and vomiting; even after the solution of obstructions effected by the cold affusion; which noxious excrements must be completely evacuated previous to the administration of opiates to calm the internal commotions, and to afford an opportunity of taking nourishment.

34. The most efficacious of all the purgative medicines, in this second stage of the disease, is the omnipotent submuriate of mercury; this medicine operates effectually in emptying the bowels, it acts benignly on the absorbent and excretory functions, it resolves the constricted fibres of the intestines, it revives the natural mobility and activity of their muscular contexture; it restores their peristaltic energy, it promotes all the secretions, it permeates the universal system, and exterminates every obstruction of the nerves and glands; it is owing to its general influence on the functions of the animal body, that we have preferred it to all others in the cure of the bad consequences of the intestinal obstructions, or in the curation of the injuries of the intestines; it is on account of the super-excellent vir-

America. I would, therefore, counsel the learned physician to try both methods of treatment, judiciously and impartially, to a sufficient extent, in a sufficient number of cases of equal violence, with the utmost vigour and diligence, in similar constitutions, in the same periods of the disease, and then compare the successes of both modes of cure. I would counsel him to lay aside all theories, and confide in experience alone to determine the comparative successes of the treatment, before he presumes to dictate to the thousands of learners and junior practitioners, who are apt to imbibed the errors as well as the truths delivered by a teacher of Medicine: I would seriously pray him to withhold all erroneous and doubtful theories, lest the precious lives of thousands and tens of thousands of his fellow-men be lost for want of the very remedies which he had condemned, and which, under the blessing of heaven, would have restored them to health and happiness of body and mind. I would never condemn any method of treatment that was found to be successful. I would never reject the remedies which other physicians have experienced to be efficacious and sanative. I unite all the useful of them, and employ the most powerful at the onset of the disease; and surely I have more chances to succeed than those who condemn and reject the greatest and the best of all the remedies hitherto proposed, in the treatment of this rapid and terrible inflammation of the vitals of the body.

My general practice coincides, in most of its essential remedies, with the physicians of Baltimore, according to the account of Dr. David M. Reese, of that city, who states, in his description of the epidemic of 1819, that the remedies there employed were *bleeding, mercury, emetics, cathartics, blisters*, proper diet and drinks, in exact conformity to the rules laid down by Dr. Rush, whose numerous disciples possess the south and west of the United States. These remedies, too, were employed according to the violence and period of the disease, the constitutions of the patients, and the seats of the local affections. I have found, by reiterated experience, that *mercurials* are useless in the acute period; that *emetics* are superseded by the violent vomiting; that blisters are less beneficial than warm baths, &c.; yet I cannot agree with them on the principles on which their remedies act to cure the disease; because, I have discovered the essential nature of all febrile diseases, and always administer remedies to reduce the local inflammation of the vital organs of the body, which is present in all cases of acute and subacute distempers. I know the principles upon which all those remedies act to effect the same end, viz. the resolution of the local inflammation, whereby gangrene is prevented, the febrile symptoms abated, and patients liberated from the intolerable weight of morbid evils, and delivered into the hand of unerring Nature, to complete their restoration. I excuse their sentiments, however, on this subject, because they do not know the natural causes and the essence of the disease; if they both understood

its nature and causes accurately, and still employed remedies with a view to remove the stimuli and the excitements, wherein they now think the disease consists, I would have disapproved of their conduct and treatment. I choose those means which are most effectual to accomplish the ends, and select those remedies which are quick and powerful, and efficacious for curing the disease, in the greatest number of cases of equal violence and duration. I administer all remedies on the principle that the nature of it is inflammation, on the ground of such remedies being most efficacious in reducing that known local affection in any given organ.

Some practitioners in this city have exclusively used mercurials and stimulant drinks, such as calomel and the blue pill, porter, brandy, wine, barks, wine whey, &c., from the very beginning of the disease. Others have administered antimonial emetics, hot teas, cathartics, blisters, sinapisms, rubifacients, turpentine, frictions, cold affusions, &c. A third class employ the antiphlogistic method of cure, bleed a few ounces, administer saline purges and draughts, and order cooling regimen, &c. But none of all these methods of treatment could obtain a preference, or was attended with greater success; the most part of the subjects of the disease died, notwithstanding all their efforts with the use of those remedies, in combating this formidable disease.

The method of cure I employed, and found to succeed in nine cases out of ten, in a uniform proportion of numbers, in the most dangerous season, was *copious and timely bleeding, purging, sweating by warm bath, blistering, diluent drinks, proper nutrients*, carried to the extent that the physicians of the West Indies and Southern States have carried them, and employed with a vigour and perseverance that physicians in this place have seldom used. In every violent case I visited the patient every two or three hours, and I remained with him every visit until I subdued the vehemence and lessened the danger of the rapid disease. The most excruciating pains of the head, back, and stomach were often relieved by a single bleeding, in which one, two, or three pounds of blood were evacuated, and a powerful purge had operated to exonerate the oppressed intestines. But here I would remind the reader, that I do not bleed in all cases indiscriminately, as my enemies would have people believe. I never bleed after the occurrence of gangrene, or suppuration, or effusion, nor in cases where the pulse indicates irritable exhaustion in the fourth, fifth, or sixth day of the disease; neither do I bleed thin meagre persons with a small, weak, soft, and quick pulse; I bleed them in the first, second, and third days of the disease, when the pulse is strong, full, and rapid; or frequent, small, hard and contracted, or irregular with these properties, which, together with the other symptoms, demonstrate the approach, or the active presence of inflammation in some of the vital organs of the body, in that acute period of the affection, and state of the patient, that do not exclude the hopes of re-

solution. Here I would remark, that it is absolutely necessary for every practitioner to possess that perfect knowledge, discrimination, and penetration, which always discover when persons are recoverable, when diseases are remediable and irremediable, in what cases to bleed, how much to evacuate in every given case and stage of the disease, how vigorously all remedies should be employed, what incurable states approach, &c., so that he may excel in judgment, and skill, and diligence, and be enabled to restore most of his patients, whence he will enjoy the estimation of a grateful people.

I cannot dismiss this important subject without observing, with respect to the cure of the disease, that all the most eminent physicians and surgeons of the East and West Indies, as Drs. Dickson, Bancroft, Johnson, Hector Maclean, Jackson, Allan, Comrie, and Birnie; and of the Southern States, highly approve of the practice of copious bleeding in ardent fevers of tropical regions, especially in the yellow fever of America and the West India Islands. "Bleeding," says a naval surgeon, "from the arm or frontal branch of the temporal artery was always my first step; and large and repeated bleeding during the early stage, (the earlier the better,) I consider the great *palladium* of the patients' safety. One cannot tell how many ounces ought to be taken; we ought to bleed to syncope, (or fainting,) to break the morbid association of the symptoms, and to induce a speedy remission," which generally happens the second and third day; "for I am convinced, that it is less by unloading the vessels, than by the *shock* which it gives to the whole system, nervous as well as vascular, that bloodletting affords the magical relief I have so often witnessed. The state of the pulse is to be less regarded than the urgency of the other symptoms; even when the former is thready or undulating, the latter often imperiously demands renewed depletion, and their demand must be complied with. In a disease like this, where the danger is frequently imminent in twelve or twenty-four hours, it is amazing how much its apparent character may be favourably altered by active depletion. From a fever of the highest grade, management will change its complexion to one of the second or third order. To receive every chance of success no attention must be spared; the patient ought to be seen every two hours; and, whenever the febrile symptoms get up anew, fresh exertions must be made forthwith to subdue them.

"It is an Herculean disease, and, without that almost omnipotent remedy, the *lancet*, we might be said to encounter it unarmed; for all other means are but of a secondary force. It requires all the vigour and activity imaginable, else it will gain ground on us with rapid strides. A practitioner who will not bleed largely in the onset, will soon feel himself in the predicament of the celebrated *Julian the Apostat*, who was hurried into battle with an active and unrelenting enemy before he had buckled on his armour, or pre-

pared himself for defence. In this disease, therefore, it is indispensable to bleed again and again;—this is the main stay—the sheet anchor of hope; without it, many, very many, must be inevitably lost; would that I could say that by it all are saved! but, when it is recollected how often inflammation, even of parts not vital, foils all our exertions to effect a resolution, it cannot be wondered at, if bloodletting is sometimes incompetent to remove” the inflammation of the brain, throat, lungs, heart, diaphragm, stomach, liver, intestines, organs endowed with high sensibility, extensive sympathy and functions, whose right performance is essential to life. The reverse of bloodletting, copious and repeated bloodletting, has been presumed from theory, not from experience, in the treatment of this disease. “The whole of the medical reports,” says Dr. Dickson, “particularly that of Dr. Douglas, concurred to substantiate the superior efficacy of early and decided bloodletting;” and, when the fever is diminished by the first bleeding, purgatives sufficient to evacuate all the putrid and bilious excrements, warm infusions of boneset, peppermint, catnip, lemonade, &c. to promote perspiration, should be administered. If these fail to produce sweat, a warm bath proves most effectual, in combination with venesection. The great remedies therefore most successful in yellow fever, are copious and repeated BLEEDING, PURGING, SWEATING, BLISTERING, AND DASHING OF COLD WATER ON THE LOWER EXTREMITIES AND BELLY, IN CASES OF INTESTINAL OBSTRUCTION.

SUFFICIENT reasons are required by all sensible and impartial men for believing the existence and influence of infection, or infected air, and contagion, in any part or parts of our city, as the cause of yellow fever.

CONTAGION AND INFECTION.

BEFORE rational and learned men can believe the effects of any causes existing in nature, they first require evidences, testimonies, facts, or experience, to prove their existance. Is it possible to believe the influence of infection, or contagion, while we have no evidences of its existence? no: fellow-men, we must first be convinced of its existence, and then believe its influence on the bodies of men, yea, more, before we can believe its influence on living bodies, we must have proofs of that influence; otherwise we must reject the opinion of its effects in producing yellow malignant fevers, as a mere conjectural supposition, and repugn the belief of its existence as a vision of imagination. We may suppose the

existence of men in the moon, but what does that teach us to believe respecting them? in fact, such a credence of their existence is paramount to the belief of the divinity of Mahommed! a vain delusion, an empty idea! How can the advocates for contagion, or infection, expect us, who can exercise our own reason, senses, understandings, discernments, judgments, memories, and reflections, as well as they can do, to believe their doctrine of infection or contagion, upon their bare assertions, without infallible evidences and facts of its existence and influence? how unreasonable! how tyrannical and illiberal in the extreme, to cram a doctrine down our throats, right or wrong, without convincing us of the truths and accuracies of it! The antiquity or popularity of the doctrine is no reason for us to imbibe an error, or believe the influence of nonexistent causes; we can accept no doctrine in medicine or natural philosophy, without demonstrative evidences of its truth, and then of the importance of such truths, in this lower world. All those who labour hard, by every fabrication and false report, to rivet the erroneous notion of contagion or infection in the minds of the people, by tracing all cases to local infection, never have yet proved to us the existence of that same infection, in the imagined local habitation or mansion of it. They have seen that some cases of the fever have occurred in Rector-street, and they have, in conformity to the doctrines of their predecessors and ancestors, who had imbibed them from their forefathers, and so on from time immemorial, without any evidences of the truths and realities of the subject, substance, or things expressed in them, taken for granted that these cases must have arisen from infection; this is no new way of receiving and believing errors, Galen and Aristotle supposed the existence and influence of contagion, and Thucydides, Seneca, P. Salius, Prosper Alpinus, Forestus, &c., founded their belief of both on their conjecture; but our supporters of infection would have us believe in its existence and influence, because they have believed them, without even attempting to convince us of the realities of these things. If no other causes had existed in the atmosphere, climate, and in the circumstances of men, to produce yellow fever, we might have been easily led to believe their assertions, without any evidences of the truths and realities of the things advanced in their doctrine, but, when we have satisfactory and sufficient evidences and facts, testimonies and reasons, to believe the existence and influence of other visible, natural, sensible, and infallible causes, which exist in the elements of the atmosphere, the revolution of the seasons, the vicissitudes of the weather, the conditions and circumstances of men themselves to create all violent diseases in nature, how can we believe those things, that we have neither seen, felt nor smelt, nor even credible evidences of their existence. For instance, I know that the cold north wind which blew for three days in the beginning of July, followed by cold rainy, variable cold and hot weather, first produced those

malignant cases of fever that called the attention of the Board of Health, and alarmed our timid citizens, who have totally resigned their sense and reason to be influenced by them, without demanding evidences of the existence and influence of the infection or contagion of the air, in any given part of our city. We must confess that we are not so credulous as to imbibe errors and believe the influence of non-existent causes. We must have sufficient evidences of the existence and relations of things or causes, before we can credit the assertions of selfish speculators. We can prove, by hundreds of credible witnesses, and depositions of witnesses, both the existence and influence of other causes, directly and indirectly, producing yellow, bilious, malignant, ague, &c. fevers, independent of the auxiliary influence of infectious air; allow us to bring forward all those families who have experienced invasions of these fevers; let us call forward all the survivors of those families who have suffered by these diseases, and let us examine them strictly on their knowledge of the causes of their distempers; on the nature of their constitutions; on the constitution of their former habits; on their modes of living; on their exposures to the rain and cold nocturnal air, cold winds and rains, especially after drinking, eating, watching, fasting, sweating, depressing passions, hard labour, &c.; on the dampness and coldness of their bedchambers; on the condition of their houses with respect to their insufficiencies, their situations, their views, &c.; on the state of the weather before, at the time of, and after the invasion; on the nature of their feelings and observations on their attacks; on the circumstances of the windows of their bedchambers being open before, during, and after their seizures; on the qualities and quantities of food and drink used by them; on the facts of being chilled after a cold bath, falling into the water, sleeping in the open air, sudden and great change of the atmosphere, or being seized with violent headach, dimness of sight, giddiness, vomiting, burning heat of the body, and general anguish, often exposures to the rays of the sun, nocturnal cold, and drinking cold water, ice cream, &c.: and we shall clearly prove the origin of all fevers by evidencing the effects of the real causes which always exist and operate to produce them, in every climate and region of the earth. Notwithstanding all those infallible evidences of their existence and operation, fool-hardy opinionists and speculative supporters of systems, will shut their intellectual senses against all the rays of truth and light that can emanate from the dictates of reason, and suggestions of nature, to illuminate the darkness of their understandings; if men choose to shut their eyes against the light they will lose the benefits of day; but although they are blind to all these things, it is no reason that we should put out the eyes of our understandings. But to come closer to the point, we shall proceed to advance a few things that will tend to sift the erroneous opinions of speculators, and purge away the chaff of their doctrine.

1. Repeated dissections of the bodies of those persons who have died of yellow and other fevers, incontestably prove the pre-existence of inflammation in some of the organs or parts of the body, and that this inflammation is the primary, local, original, affection in the system, whence all the febrile symptoms proceed to constitute the different modifications of yellow, bilious, malignant, ague fevers, &c.

2. It appears impossible and inconceivable that infection, or infected air, on the face of nature, can produce inflammation of any of the internal organs, or external parts of the human body, so as to excite fevers; consequently infectious air cannot be the cause of yellow fever, because we cannot imagine how any cause can create inflammation, but what induces a congestion of blood in the vessels of organs or parts; or an obstruction of their small vessels by a determination of blood or humours towards them; or violent lesions of their structures by wounds, concussions, lacerations, luxations, fractures, poisons, contusions, ardent spirits, combustions, acrid and corrosive humours, congelations by extreme cold; or an unequal distribution of blood by violent passions of the mind, over exertion, burning heat of the body, and great and sudden revulsions of perspiration and other humours; and the like effects of the exciting causes, the consequences of which are inflammations that create fevers, and terminate in suppuration or resolution, effusion or gangrene and death.

3. If the causes of inflammations, therefore, are evident to all men, why should any man in his senses search after any mysterious and unknown cause, the existence and influence of which never can be proved, nor its nature understood, by the acutest of the human family? but there is a natural propensity in the minds of men to admire the marvellous, and believe the mysterious things in philosophy, as Religionists adore the superstitious and wondrous incomprehensibilities of the systems of their choice, adoption, or education.

4. As we have carefully observed and witnessed the real, natural, visible, and sensible causes of yellow fever, which has prevailed in our city, as we have done in Asia, Africa, Europe, and America, in the free and unprepossessed exercise of our own mind, beyond the influence of old errors of perception and opinion, we have to declare, on the foundation of infallible truth and human certainty, that the distemper called yellow fever, never has sprung from the infection of the air of any "district," supposed to be "infected," in our city, and why should we be deceived, and so egregiously deceive our fellow-men, by any false reports and fabrications respecting its originating in any given "district," from infection, without proving, by evidences, facts, testimonies, and experiments, the existence of that infection. We cannot believe the existence of infected air in the prescribed district. The city is as clear and pure in point of local atmosphere as any in the

world, and how can we credit the influence of that infection which does not exist? let interested men and speculators in the art and science, who are attempting to raise the superstructure of their systems upon the rotten foundation of a mere supposition and false theory, go on to support their errors by fabrications and false reports, until the measure of their errors shall make them lose the confidence, credence, and estimation of a discerning people; when they will be compelled to look back upon their former ways and opinions with shame, sorrow, and remorse. When a few years shall have elapsed, and a total revolution in medical theory shall have taken place, to the final eversion and explosion of all erroneous speculations in the art and science, then shame and remorse will brood in the minds and aspects of all those obstinate opinionists, contagionists, and infectionists, who are now attempting to support the fabric of an erroneous system on the basis of an empty vision of imagination, and are plastering it with the untempered mortar of self-interest, self-love, envy, malevolence, and calumny, spread with the trowel of chicaneries and fair pretensions, and smoothed with the level of a license and a name. If we produce unequivocal evidences of the truths and realities of these things under consideration, to prove that all cases of fever we have had in the city this season, have arisen from heats and colds, in the various forms of wet and dry, rare and dense, calm and tempestuous atmosphere, bathing in the river after sweating; exposure to night air and cold winds by sleeping in bedchambers with the windows open, or in the fields, streets, on decks of ships, in piazzas, on the cold damp floor or ground; by sitting in a current of air after being overheated; by being caught in a shower of rain, drinking cold ice cream, cold water, falling into the river; or exposure to the rays of the sun in walking, working, sleeping, watching under his influence; and from spirituous and fermented liquors, excess in eating and drinking, fatigue and fasting, improper kinds and quantities of food, fruits, and watery garbage; depressing and exciting passions of the mind, a redundancy of bile, and an accumulation of putrid excrements in the intestines, &c.; which will, in continuance, succession and occasion, produce yellow, bilious, malignant, typhus, pestilential, and ague fevers, in the autumnal season of the year, independent of the influence of any infectious air, vapour or exhalation, our testimonies are surely entitled to belief.

As for the idea of all the cases originating in one particular district of the city, we shall only say, that all the speculating reporters of the cases being influenced by certain motives and errors of opinion, have imposed upon the credulity of the vulgar, by attempting to trace them all to one common origin, and by calling all other cases of the disease, happening in distant parts of the city, "bilious, remittent, typhus, or inflammatory fevers," and inflammations, as the antagonists of Rush did, in Philadelphia, in

1794, in order to conceal the real causes, which would have overturned their system of opinions, and nullified their offices, if generally known and believed; and to exhibit the fictitious causes which tend to confirm their doctrines of infection and contagion, and evince the necessity of their offices in a health establishment, which, we trust, will not have a popular existence in the course of a few years.

CASES OF THE YELLOW FEVER.

I HERE subjoin a few cases of yellow fever, out of one hundred that I could add, in confirmation of my doctrine of the nature, causes, and cure of that distemper, as it arose from the natural causes, which I have explained consisted of the inflammation I have mentioned, and was cured, with the exception of ten mortal cases, by the remedies I have proposed in the foregoing pages, all in persons whom I have attended in their sicknesses, besides in others whom I have visited, so that all impartial men might know the true grounds of my doctrine, of the nature and causes, as well as of the principles of my practice; and that all those persons who are disposed to doubt the truths and certainties of the things contained in my observations may have ample opportunities of finding out the facts I have advanced by obtaining the personal testimonies and evidences of those who have suffered by the disease in their own persons, families, or relations.

Martin Reder, aged four years, was exposed to the cold nocturnal air from open windows, (for the family were in the habit of keeping the windows of their bedchambers continually open during sleep,) and was affected with severe inflammation of the lungs, commonly called "yellow fever," on the 26th of July. I immediately drew ten ounces of blood from the arm, gave him a powerful dose of calomel, put him in a warm bath, and recommended warm teas for his constant drink, with strict injunctions to keep the windows shut day and night. On the 27th, fever still high, tongue furred, pulse strong and hard, bowels well opened, no sweat produced, and redness of the eyes, difficulty of breathing, and great thirst still continued; and I took six ounces of blood from the frontal branch of the temporal artery, and ordered warmth and sudorific drinks. On the 28th he became convalescent.

Louisa Reder, aged 13 years, a strong robust person, was excessively fatigued during the sickness of her brothers and sisters, exposed to the cold night air from the same windows, during the prevalence of the cold weather which succeeded the three days of cold north wind, and was seized, on the 28th of July, with violent pains in the head; perpetual vomiting and burning pain in the stomach; the bowels were costive and loaded; the urine was red and scanty; the tongue white and parched; the skin hot and dry,

accompanied with great anxiety, restlessness, thirst, &c. ; constituting yellow fever, which, in this case, consisted of local inflammation occupying the stomach and intestines. I opened a vein in the arm, and drew sixteen ounces of blood ; gave her three strong purgative pills ; desired the parents to put her in a warm bath ; but nothing rested on the stomach, and no sweat appeared on the skin. She became faint by the bleeding, and had a copious alvine discharge of gall. On the 29th, the symptoms were again as violent as on the day before, pulse 140, strong, hard, and rapid. I called five or six times, and bled her two pounds of blood, which again evacuated the bile and excrements on the approach of fainting, and reduced the violence of the fever. I recommended thin arrow root boiled, &c. On the 30th, bilious vomiting continued without alleviation, deep sighing came on, the pulse became small and contracted, frequent, and weak ; and, as I apprehended the presence of a deep inflammation of the stomach, I drew another sixteen ounces from the arm, and she became very faint with the evacuation. After that, I applied a blister to the region of the stomach, and recommended a repetition of the warm bath. On the 31st the deep sighing, anguish of the countenance, great thirst, &c. continued, and I prescribed ten grains of the compound powder of ipecacuanha, and thin nourishing diet of the lightest quality. On the 1st of August, the 5th day of the tremendous inflammation, she began to recover.

Thomas Shortland, aged 16 years, was exposed to the hot, burning sun, during labour, used some liquor, slept in an open loft where the cold nocturnal air entered, and was seized on the 27th of July with violent pains in his head, back, loins, and whole body, accompanied with vehement fever, redness of the eyes, white tongue, loss of appetite, great weakness, redness of urine, vomiting, &c. I opened a vein in his arm and drew away two pounds of blood, gave him a strong purge, and recommended warm drinks, which greatly relieved him, and enjoined ease and quietness. On the 29th, he felt some pain about his head, with some redness of the eyes, attended with a considerable frequency of the pulse, which induced me to draw away another pound of blood, and he recovered.

Thomas Connor, aged 30 years, No. —, Cherry-street, was exposed to cold in a shower of rain, after being subjected to the rays of the sun and hard labour, was attacked on the 17th of July, with violent burning fever of the intermittent type, attended with violent pains in the head, back, loins, and limbs, especially in the region of the liver, obstruction of the intestines, frequent bilious vomiting, redness and scantiness of the urine, white tongue, great anxiety, &c. Drs. G—— and M—— attended him the first ten days of the fever, had given him some salts, ordered him to drink hot brandy, or gin punch, laudanum, &c. ; but he began to sink under that mode of treatment, and he discharged them for a certain good reason. On the 27th I found him labouring un-

der the most violent burning fever, with a great pain in the region of the liver, and obstruction of the intestines; and I considered the practice of copious and repeated bleeding the most likely means to resolve the inflammation of the liver then present in a high degree, and purging as a great auxiliary remedy to bleeding. I drew away two pounds at the first bleeding, left three or four doses of jalap and calomel for him, ordered a warm bath, and plenty of herb teas, &c. On the 28th, seemed easy in comparison to his feelings of yesterday; purgatives did not operate; his eyes were yellow; I recommended clysters of jalap and water. On the 29th, had a severe paroxysm of fever, and I again drew sixteen ounces of blood, in the hot period of the paroxysm; ordered the warm bath and purgatives to be repeated. On the 30th, all the symptoms returned, his stomach rejected part of the medicine, and his bowels were still obstructed, and I desired them to repeat the purges. On the 31st, no evacuation took place, and ordered 30 grains of calomel and a drachm of jalap to be given, and repeated in three hours, if no evacuation was produced by the first dose, and the warm bath to be repeated, for I considered it a most inveterate case of yellow, remittent, bilious fever arising from an inflammation of the liver, with obstruction of the intestines. On the 1st of August the purgatives operated, and discharged a great quantity of black, bilious, and putrid excrements, like the dregs of oil and gall, and the fever returned no more. The quantity of calomel he had to take as a purge, being so long in operating, produced salivation, which, I believe, cured the obstruction of his liver and bowels together, and I recommended the use of sulphur to eradicate the mercury from the system. This man's disease never could be traced to any district of the city, supposed to be "infected;" where then is the vision of infection to rest?

THE END

DISSERTATION

ON THE

HISTORY AND CURATION

OF THE

Obstruction of the Intestines

IN ALL THEIR

MODIFICATIONS AND COMBINATIONS,

COMPREHENDING

THE FECULENT, THE BILIOUS, THE NERVOUS, THE SPASMODIC, THE
METALIC, THE FLATULENT, THE HYSTERICAL, OR THE
ILIAC CHOLIC OF AUTHORS;

TOGETHER WITH SOME

CASES OF THESE DISEASES,

SUBJOINED IN CONFIRMATION OF THE SUCCESS OF THE METHOD PRO-
POSED FOR THE GENERAL BENEFIT OF MAN.

BY PETER DONALDSON, *chirurgéon.*

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SOUTHERN DISTRICT OF NEW-YORK, ss.

BE it remembered that on the twenty-first day of July, in the forty-sixth year of the independence of the United States of America, Peter Donaldson of the said district, hath deposited in this office the title of a book the right whereof he claims as Author, in the words following, to wit: A Dissertation on the History and Curation of the Obstruction of the Intestines, in all their Modifications and Combinations, comprehending the feculent, the bilious, the nervous, the spasmodic, the metallic, the flatulent, the hysterical or the iliac cholic of authors; together with some cases of these diseases, subjoined in confirmation of the success of the method proposed for the general benefit of man. By Peter Donaldson, *Chirurgian*. In conformity to the act of the Congress of the United States, entitled, "An Act for the encouragement of Learning, by securing the copies of maps, charts, and books, to the authors and proprietors of such copies, during the time therein mentioned." And also to an Act, entitled, "an Act, supplementary to an Act, entitled, "an Act for the encouragement of Learning, by securing the copies of maps, charts, and books, to the Authors and Proprietors of such copies, during the times therein mentioned, and extending the benefits thereof to the arts of designing, engraving, and etching historical and other prints."

G. L. THOMPSON,

Clerk of the Southern District of New-York.

A

DISSERTATION

ON THE

HISTORY AND CURATION

OF THE

OBSTRUCTIONS OF THE INTESTINES.

INTRODUCTION.

There is no disease that ever infested the human species more deserving the assiduous attention of physicians, or meriting the inquisitorial research of all men in general, than obstructions of the intestines, both on account of the deadliness of their nature, and the inefficacy of all the remedies commonly employed to effect their curation.

Being fully convinced of the truth and reality of this position, we have deemed it our imperious duty to write a history, and institute the method of curing these pernicious obstructions; in order, if possible, to render the method of cure more certain and infallible, in the use of remedies most effectual against every modification of these dreadful maladies, that we might liberate many of our fellow creatures from the most exquisite of all human tortures.

We do not intend to advance any suppositions in the subsequent dissertation, which are not founded on certain facts and proved data, obtained in the course of years

from infallible experience and accurate observations, attested by many living credible witnesses, who have themselves timely experienced the unspeakable benefits of the potent remedies, that we shall now propose, and have been snatched from the very gates of death by their mature application.

We shall not call these new remedies or discoveries; we only proffer them as very important improvements in the healing art. Yes, we mean to introduce such remedies into general use which have hitherto been accidentally employed in the curation of these intestinal obstructions, and, like many other infallible remedies, inhabit the regions of doubtation in books of medicine, and seldom appear in actual practice. Many physicians indeed, have considered it a dangerous expedient to use these remedies, either from the imaginary doubts of their powers, or from the fatal prejudices of singular theories, and sometimes from the unqualified timidity of their own minds, trembling to deviate from their blind routine of practice, or have never dreamt of their application.

But whatever apprehensions of their inefficacy, judicious men may entertain, or whatever objections to their use invidious persons or jealous rivals may agitate or attempt to prejudice their patients against them, nothing, we imagine, will ever deter the tortured patients from trying the simple application of the remedies which they expect will save their mortal frames from sudden dissolution, and which we mean to propose to the world in the following pages. To cavilers we would only say, try them faithfully in the manner we shall prescribe, and then approve or disapprove their use as ye find them by experience to answer or not answer the ends proposed. We can assure the world, that no bad consequences can ever arise from the use and application of the remedies, which we shall proffer to men in the exercise of the medical art.

In the subsequent dissertation we only intend to exhibit the infallible remedies of pure obstructions of the intestines, complexions of disease so direful in their effects, and so deadly in their consequences, that very few ever emerge from the depths of their agonies, by the assistance of physicians, or the aid of medicine. How lamentable soever this may appear, how humbling it may be to the boasters of the science, it is as true as deplorable, that

most of those afflicted with obstinate cases of intestinal obstructions, perish under the eyes of their gazing physicians: all extolled remedies, all celebrated medicaments, all kinds of common means, have been employed to rescue them from sudden perdition; all common remedies, we say, except the sovereign ones, which were adequate to restore every one of them to their wonted health and terrestrial enjoyment; but alas for the unhappy patients! alas for the ignorance of practitioners, or the miserable physicians who content themselves with the stupid notions of having done all that can be done in such a case, quiet their consciences with the common delusion, in the belief of the incurability of the disease, being the great cause of the failure in its curation; and they excuse themselves accordingly in the most stupid manner—"We have done all that can be done for him; we have employed all the remedies ever recommended in this disease; nothing more can be done; the world cannot save him; he must inevitably die;" and such like ignorant and pitiful excuses for the ill success of their practice, or the untimely death of their patients, in order to hide their deplorable ignorance of the remedies which would have infallibly cured them. When all their intellects are palled, all their skill exhausted, all their attempts made in continual disappointments, and all their medicaments given in vain to relieve the unfortunate sufferers, they excuse their ignorance by saying the disease is *incurable*. Whereas there is a physician in existence, yes, lives in this city, that can cure the most inveterate case of intestinal obstruction in the course of an hour. But, alas! the miserable patient is not aware of this circumstance, and his credulity is imposed upon by the murderous practitioners at the expense of his own life.

Physicians have hitherto contemplated the different modifications of these obstructions, under the general term *cholic*: and all writers in medicine have considered it of several species, all comprehended in one generic character. Sauvages, Linneus, Vogel, Sager, Macbride, and others, class it among the internal pains of the belly. And the great Cullen, with no less impropriety, has classed it among his nervous diseases, under the order of spasms, and has enumerated seven different species of them, which all bear such a notable similarity of definition and symptoms, that no utility can be derived from their distinction.

Some writers enumerate many species under distinguishing epithets, as the Nervous, the Inflammatory, the Bilious, the Flatulent, the Hysterical the Metallic cholic, and Iliac passion, which are mere symptoms of one and the same disease, in its various modifications and different combinations, in the particular assemblage of its morbid phenomena, depending on circumstances or peculiarities of constitution, and the powers of the efficient causes. For instance, in hysterical persons, in persons subject to habitual constipation of the bowels, redundancy of bile, having delicate constitution of the intestines, troubled with wind, or addicted to dram drinking; and where the presence of metallic or other poisonous substances existed in them, to modify the accidental combinations of the obstructions.

We shall not waste our time by delaying to refute these chimerical notions of authors respecting the division of this disease into various species, which would neither enable us to institute a more certain method of curing it, nor assist us in comprehending its nature and combinations; but shall proceed to give some account of the nature, the causes, the distinction, the prognostication, and the curation of the obstructions of the intestines themselves, commonly denominated cholics in all their modifications, degrees, and combinations, according to our new method of characterizing every complication of morbid phenomena, or assemblage of symptoms, constituting every disease in its general and special characters, which we have uniformly followed in our manuscript work on the practice of Medicine and Surgery, under the conviction of its being the most instructive and unexceptionable of any hitherto adopted in the description and distinction of diseases. Under the guidance of this method, students of medicine will be led to understand, know, and distinguish every disease of the animal constitution, in a single glance of their intellectual powers, by a certain assemblage and complexion of morbid symptoms, which always constitute the essential character, demonstrate the presence, manifest the existence of every particular disease in the functions of the animal economy, as well as enable them to distinguish all modifications and combinations of the same identical diseases, lead them to institute the most rational method of curation, and furnish them with an indelible

knowledge and understanding of all morbid signs ; whereby they are qualified to recognize every complexion of morbid phenomena as easily, and with as great precision, as the intelligent and sagacious individual can distinguish the differences of the aspects and features in the countenances of men.

It is most assuredly the ignorance of the distinguishing signs in every particular complexion of these morbid phenomena, constituting each disease distinctly and conjunctly, that has caused so many of medical practitioners to err egregiously, and to commit so many blunders in the exercise of the healing art ; because, if physicians cannot comprehend the disease under their care, with one qualified intuition of their intellectual powers of recognition, how can they institute the method of curation, being ignorant of the nature of the malady ? And it is impossible for them to direct the course of remedies or use of medicines, in any given case of disease which may come under their care, with any tolerable success, unpossessed of this internal discernment. Nay, more, they may do irreparable mischief in their blind routine of practice. They observe a blind course of procedure in imitation of some celebrated author or after the false principles which they have imbibed in schools of medicine, or even adopted from the masters under whose tuition they have been trained to the practice of the art. They carefully conceal their deplorable ignorance of the nature and cure of diseases, by some artful manœuvre of self-interest or impudence. They impose upon the credulity of their unfortunate patients ; they pretend to administer great medicines under the deceitful garb of coloured water, or exhibit random medicaments, which are either useless or pernicious in the disorder supposed to be present in the system. But ah ! how chagrined they appear on their dismissal where other physicians of real merit and knowledge are called to attend their patients, and justly to expose their ignorance and to save the patients from approaching destruction ; they conceive malice, and bring forth revenge against the exposers of their unskillfulness ; whereas they ought to lament their own inscience and ignorance, and return to the studies of medicine, which they have affected to practice. The want of candour produces in them an obstinate adherence to an unsuccessful method of treating diseases, and a belief of the infallibility of their systems, creates in

them an excessive degree of self-conceit and temerity, that they will not come forth nobly to acknowledge their errors, and wisely to seek the depth of knowledge to which they are strangers. This pride is incompatible with true dignity of soul and elevation of mind; and a species of pride, which has caused the lives of thousands of our fellow creatures to be sacrificed at the altar of professional butchery!!! Heaven protect the unwary from the hands of such practitioners!!! The qualifications of a proper education are wanting in them; a penetrating genius, a clear and solid judgment, a quick apprehension, a noble intelligence, and a dignified deportment, never enter their composition. Rough and blustering manners generally characterize the weakness of their understandings, and meanness of their soul. Irresolute temerity, and notorious affectation, argue them destitute of personal magnanimity; and the cruelty and avarice of their hearts, bespeaks their vast defects of sympathetic generosity and goodness. Alas! time would fail us to unfold the deficiencies in the knowledge, and the errors in the practice of nominal physicians, and consequently, we refer you to our dissertation on the causes and cure of these errors, which we composed on that painful subject.

We intend in the following discourse to illustrate all the modifications and combinations of these intestinal obstructions under one general character; because a specification of every variety in the aspect of the disease, does in no way enable us more accurately to understand the nature and the cure of the different cases that may come under our particular care; neither would it lead us to observe any diversity of method in the administration of the remedies employed in the treatment. And we, therefore, deem it most expedient to describe obstructions of the intestines, as one complexion of morbid symptoms; including many modifications and combinations of the same original disease, morbid phenomena, which will always manifest the presence of the disease, and characterize its very existence. So we shall, in the first place, enumerate the essential symptoms, which demonstrate the existence of intestinal obstruction. And, in the second place, mention the accidental symptoms, which occasionally occur to augment the verity, and increase the agonies of the subjects of these direful maladies, as well as make some difference in the selection and administration of the remedies.

THE CHARACTER OF OBSTRUCTIONS OF THE INTESTINES.

1. This assemblage of morbid appearances comprehends these five great characteristic symptoms:—an intermittent pain of the contorted intestines, especially occupying that portion of them lying in the region of the navel; a constant vomiting of the contents of the stomach and bowels; a retention of the excrements; and absence of fever; which clearly manifest the existence of intestinal obstruction in a regular concatenation of evils, through the notable medium of the consent of motions and sensations in the animal economy. For the offensive excrements retained in the canal of the intestines, incites a spasm of their contractible fibres; the spasm of the intestines produces excruciating pains by its racking contortions and distentions of their sensible contexture; the agonizing pains produce sympathetic vomiting, probably designed in the order of nature to liberate the oppression and contraction of the stomach and intestines; the vomiting excites thirst, calls the muscles of the belly into action, produces bitterness of the mouth from the ejection of acedent matter, and exhausts the strength of the living constitution; and the retention of the excrements is induced by the torpor or disease of the intestines themselves, arising from the exciting causes, or by the inversion of the peristaltic motion, partially extended on their irritable tissue. Hence we may clearly see the accidental symptoms which may be added to the essential, in any particular case of obstruction.

2. The accidental and casual symptoms of obstruction of the intestines, are a redundancy of bile; an inversion of the peristaltic motion; dysuria; putrid eructations; flatulences; fainting; distention of the belly; retraction of its muscles; watchfulness; delirium; cold sweats; tremour of the pulse and hands; frequent hiccup; great prostration of strength; dejection of spirits; thirst; whiteness of the tongue; torpor of the bowels; palsey of the extremities, on one side, or the whole of the voluntary muscles; pain of the head, back, and stomach; sometimes frequent dejections of bilious stools, and a temporary oblivion of the senses; which show a variety of evils, arising from some peculiarities of constitution; the circumstantial powers of the exciting causes, the condition of the body, and the violence of the primary evils.

THE CAUSES OF OBSTRUCTIONS OF THE INTESTINES.

3. A long retention of indurated and bilious excrements in the bowels, crude, indigestible, flatulent, and acedent aliments, poisonous substances lodging in the intestines; a redundancy of bile; irregularities of diet; habitual dram drinking; want of due exercise; great heat; sudden cold applied to the surface of the body; worms in the bowels, are the most common causes of these obstructions. As a judicious author attests in his relation of the internal and external causes of the cholic: *Externae sunt, ut retentio longior faecum praeter morem, creber usus acerborum et astringentium, praesertim si assumantur principio mensae, exercitia et jejuna crebra, praesertim aestivo tempore, et in aestivis ardoribus immoderatae et assiduae ciborum ingestiones, quos nec vincere nec distribuere potest, cum non concedatur et tempus et spatium, item otium, decubitus, somnus longus, quibus natura hebetatur, et ignava redditur ad omnes actiones naturales.*

4. *Internae causae sunt tres: 1, hebetior sensus intestinorum ex veterno, paralyse, apoplexia, aut cicatrice intestinorum contracta ex solutione ulcerum post dysenteriam: 2, ex defectu flavae bilis extimulantis in intestinis vim excreticem, ut fit in ictero ex obstructione meatus cholangi: 3, infarctione intestinorum ab aridis et duris faecibus, vel crassa pituita, vel inflammatione, vel frigore, vel astringentium maleficio, vermibusque intestinorum;* which occasionally combine to produce the obstructions under consideration. As for the other causes enumerated by physicians, as some tumours in the intestines; concretions; collections of bloody masses; callosities; translations of gout; diseases of the reins, bladder, pancreas, spleen, liver, or intestines themselves, we shall not place among the causes of obstructions of the intestines; because these are distinct diseases characterized by peculiarly essential symptoms. It is sufficient for us to add, that the causes above mentioned will produce the obstructions in question, in all persons who have an original or constitutional irritability and tenderness of the intestines, or have been frequently subjected to previous attacks of the same malady.

THE DISTINCTION OF THE OBSTRUCTIONS OF THE INTESTINES.

5. The accuracy of every physician's knowledge of diseases, mostly depends on his understanding, judgment, and sagacity in the great art of distinguishing them from each other, with an intuitive facility, and most infallible precision, just as a penetrating eye would recognize the different countenances and features of distinct persons. His success, indeed, in practice, will always bear proportion to the depth and certainty of the distinguishing powers of his intellects; and all those who intend to use the remedies we shall propose to them in the subsequent pages, must be masters of distinguishing intestinal obstructions from all other diseases of the alimentary canal, that bear the least resemblance to them; such as inflammations of the intestines; calcareous concretions; callosities; fluxes; difficult menstruation; dolors of the womb; spasms of the kidneys; cholera; worms; and diseases of the ventral membranes; which may deceive the inattentive practitioner, and lead him into the most egregious errors of employing the remedies prescribed in these obstructions; when the existing disease is inflammation of the intestines, or inversely, the remedies which ought to be used in these ventral inflammations only, when intestinal obstructions were alone present; or apply the remedies of obstructions to painful spasms of the womb, difficult menstruation, or scirrous diseases of that organ, which would increase these maladies; as many pompous physicians of this ignorant and avaricious age continually do, at the expense of the precious lives of myriads of their unfortunate patients. But not to digress, we shall proceed to point out in particular those distinguishing signs of intestinal obstructions, which will infallibly specify the characteristic difference of this particular complexion of disease, from all others of similar morbid phenomena.

6. The infallible marks of distinction between obstruction and inflammation of the intestines, are a total absence of fever; an alleviation of internal pain on manual pressure of the belly; perfect intermissions of the contorting pain; retraction of the navel and of the abdominal muscles, in all cases of obstruction; and the presence of high fever, augmentation of the pungent pain by pressure; the

perpetuity of the pain; tension of the abdomen; and anguish and lassitude in all cases of inflammation of the intestines; which will enable every intelligent practitioner to distinguish the one from the other, with infallible certainty.

THE PROGNOSTICATION OF OBSTRUCTIONS OF THE INTESTINES.

7. It is also of great importance to be able, intuitively, to foresee the issue of every disease under our care; and to foretel the approach of death, or return of health, in every given case, when it is required of us, especially in all cases of violent and tremendous disorders. A favourable report will always encourage our patients; an unfavourable prognostication will satisfy and prepare the minds of their relations. But should a practitioner appear confoundedly palled in conjecturing the probable event of the case, and hesitate to satisfy their inquiries, there would be every reason to suspect his abilities in every other respect, and they would call other physicians of superior fame. We may easily pronounce the probable termination of all diseases advanced to their crisis, or even in the primordial of their perfect formation.

8. The *favourable termination* of obstructions of the intestines, is easily foreseen in the comfortable remains of strength; natural appearance of the countenance; the return of appetite; free explosions of wind; the fruition of natural repose, especially in the abatement of the pain, and copious evacuations of bilious, glutinous, hard, fetid, and putrid excrements, which foreshow the immediate return of health. The *fatal termination* of them may be easily conjectured from the permanent fixation of the pain; the invincible obstinacy of the constipation; the accession of hiccup; intolerable vomiting; perpetual watchfulness; faintings; irremediable inversion of the intestinal motion; the sudden cessation of all pains; the cold sweats; delirium; tremour of the members; the great debility of the pulse; livid colour of the lips; the lurid appearance of the visage; and the evident sinking of all the powers of animal life, indicating the sudden approach of dissolution,

THE CURATION OF OBSTRUCTIONS OF THE INTESTINES.

9. All men will readily perceive the indications of cure in all cases of obstructions of the intestines, viz. to remove the present evils, and restore the strength of the patient. But, alas! physicians do not agree on the method of executing these intentions, and differ egregiously on the use of remedies in their various modifications. Some rely on the virtue of the infusion of tobacco; others confide in the efficacy of purgative medicines, and clysters; one trusts to the efficiencies of warm bath, blisters, bleeding, antispasmodics, fomentations, opiates, mercury, and mechanical dilatation; another depends on the use of quicksilver and frictions; but, alas! all these remedies have often failed, and all the efforts of physicians have been often baffled to effect a cure, or even to relieve their unhappy patients from the pressure of exquisite tortures. They do not employ the remedies of infallible virtue that would effectually remove the obstructions in every period of their existence, in every degree of severity, and in every case occurring in practice, unless the powers of animal life are sunk below the possibility of restoration, previous to their benign application. Some of these remedies above mentioned, are not only useless and inefficacious, but even dangerous in their effects; for instance, the infusion or fumes of tobacco, and the use of quicksilver in large quantities, to dilate the contracted, and to relax the obstructed intestines.

10. In the last stage of the obstructions of the intestines, when no relief could be obtained in any degree from the use of those powerful remedies above mentioned, practitioners have been recommended to flee to the infusion or fumes of tobacco, in the forms of clysters, in order to relax the spasm of the intestines, and procure evacuation of the alvine excretions. But this is a medicine of such strength and violence, that its administration must be accompanied with a great deal of caution, lest the deleterious effects of a large dose of this herb, be so great as to sink the animal powers, and destroy the lives of the very persons whose existence we are attempting to preserve. It first excites distressing nausea, fainting, an immense depression of the living powers of the system, and resolves the tone of every nerve; and we have heard of cases of immediate death

being induced by a strong clyster of the infusion of its leaves. A drachm of the leaves of this herb, is enough to form a quart of the infusion of sufficient strength to be administered to an adult in two different clysters, and repeated in the course of four, six, or twelve hours, if no bad effects arise from the first clyster. And the *quick-silver*, if it should meet with invincible resistance from the presence of intussusception or impenetrable obstruction, would increase, we suppose, the agonies by its unfriendly presence.

11. *Opiates* in the cure of obstructions of the intestines, are pernicious during the existence of constipation. They retard or suspend the natural motion; render them more torpid, and prevent the operation of purgative medicines. In the advanced period of the disease, when an inversion of the peristaltic motion of the intestines alone remains with all its spasmodic contractions, these opiates are the most efficacious of all remedies; and in all cases of gripings, produced by cold, or passions of the mind, or flatulence, or fermentation of the contents of the bowels, opiates may be useful in the absence of the intestinal obstructions.

12. *Warm bath* has also been employed in the cure of obstructions of the intestines as an antispasmodic remedy, to relieve the torturing pain of the bowels. But we are of opinion, that immersion in warm water will increase the obstructions, by inducing copious sweats, which will dry up the excretions of the intestines, augmenting the constipation; and fomentations applied to the naked belly will only afford a temporary alleviation of the pain.

13. *Bleeding* is another remedy of no utility in the cure of intestinal obstructions, except to prevent apoplexy, epilepsy, or rupture of some important blood vessel, by the violence of straining, in full habits and robust constitutions. And it is manifest that all weak and puny individuals would be injured greatly by its use. In short we have never seen it produce the least benefit in any case of pure obstruction.

14. *Blisters* applied to the belly in cases of pure obstructions of the intestines, produce no good effects, either to remove the contraction of the intestines, or to alleviate the concomitant pains. We have never found any benefit to be obtained in these cases from their repeated application. Rubificients and frictions are equally useless.

15. *Carminatives and antispasmodics*, which have been highly recommended by authors of celebrity, produce no apparent good effects during the continuance of the visceral obstructions. Use of oils is attended with no benefit whatever in the cure of such obstructions.

16. *Mechanical dilatation* of the intestines is another remedy much extolled for the cure of these obstructions. This dilatation is to be effected by injecting through a proper syringe two gallons of warm water into the colon, in order to dissolve the compacted excrements, and nullify the obstruction. This powerful remedy has been attended with great success in some few cases, when the water was thrown up forcibly, till the patients began to experience a great uneasiness from the distention which it produced in the belly.

17. *Emetics of Antimony* have been administered to patients labouring under obstructions of the intestines, on the supposition that they would concuss the whole body and expel the morbid matter, equally downwards as upwards; because emetics of ipecacuanha or antimony, or even spontaneous vomitings, have been often attended with subsequent evacuations of the excrements. But we can assure the world of their inefficacy in almost all cases of obstruction, where excessive vomiting is always present to reject every kind of an emetic that can be administered to the sick. If vomiting is absent, purgative medicines will be far more effectual. And why should we excite one of the most distressing of all morbid symptoms, deadly nausea, and vomiting? thence let us reject their use in practice.

18. *Cathartics* to procure alvine evacuations, are the most effectual, in many cases, to remove intestinal obstructions, if vomiting has not yet supervened to prevent their exhibition. But if vomiting should render the use of powerful cathartic medicines impossible, we must immediately have recourse to purging clysters of the most potent kinds; and must repeat these assiduously, for the space of four hours or until we should judge from the great numbers administered, and their total inefficacy, that no future trial would be attended with better success. The submuriate of mercury, in the form of ten grain pills, is the most effectual and powerful of all others in the class of cathartic medicines; the smallness of its bulk, its specific gravity,

and its great purging virtue, render it superior to all other purgative remedies, in the cure of intestinal obstructions; being most likely to be retained in the stomach, during the most violent efforts of vomiting. and even to gravitate or work into the obstructed intestines; jalap, epsom salts, castor oil, colocynth, aloes, in large and repeated doses, vigorously employed, are the quickest and most efficacious in all cases, where the stomach can retain them, especially administered judiciously by skillful practitioners, as the nature and urgency of every case may require. If the perpetual vomiting should render their use impracticable, we must flee to the exhibition of some other remedies.

19. *Purging clysters* are also powerful means to dissolve obstructions of the intestines, and the only remedies of cathartic powers on which we can rely and place our hopes of success in this painful dilemma. But, alas! a few hours of experience or trial will soon convince us of their inutility, and frustrate all our expectations in every obstinate case of intestinal obstruction. These clysters should be composed of the muriate of soda, salts, jalap, castor oil, combined with the infusion of senna, and exhibited in the quantities of a quart, and repeated every half hour, for four hours, or till no hopes of relief can be entertained from their use; or concomitant circumstances are expected to render all future attempts abortive, the execution of this method of curation wholly depends on the good judgment of the administrators for any probable success. Very often this order of remedies, altogether fail in relieving the agonies of these obstructions, and are never found efficacious in perfecting a cure. Clysters composed of sp. turpentine, yolks of eggs, and two pounds of warm water, formed into a clyster, to be immediately injected into the bowels; and a clyster of five or six grains of tartar of antimony have been recommended as being more effectual than any other; but these are violent remedies, sometimes producing bad effects in the colon, and seldom attended with any great benefit; admissible only in cases of desperation.

20. Now we have used all the remedies which are commonly employed in cases of intestinal obstruction, we have found them all frequently to fail in dissolving the obstructions, or even in mitigating their violence; we have tried the virtues of them all in actual practice; we have expe-

rienced their effects in our own persons; we have accurately observed their powers in the constitutions of thousands; and must now draw this unfavourable conclusion of their sufficiency to remove intestinal obstructions, that all these are very uncertain or ineffectual remedies in the curation of this obstinate disease. How vain the hopes! how vast the frustrations of mortals! What would the careful physician not do to save his dying patient in this awful suspense? What would his patient not undergo to be snatched from the brink of death and despair? What would he not give for the life and health of his dying frame in this hopeless condition? The desertion of his physician; the prospects of dissolution; the fascination of the present world; the attraction of affectionate relations—all unite to increase the tenacity of the present life! We have witnessed many desponding mortals, in this deplorable situation, and have been moved with compassion towards them; but will all the sympathy and solace in the world quiet their despair, if we can not inspire them with the certain hopes of immediate salvation? Surely nothing will console the expectants of death, except the hopes of life.

21. Supposing, then, we have administered the most powerful *cathartics*, the most stimulating *clysters*, the most resolvent *antispasmodics*, the most efficacious *corminatives*, *opiates*, and *mercurials*; have practised *bleeding*, applied *blisters*, used the *warm bath*, employed mechanical *dilatation* and *friction*, and exhibited quicksilver, in vain, to resolve these obstructions; what shall we do? Is there no other remedy that can be employed to cure them? Yes; fortunate for the subjects of intestinal obstructions, an infallible remedy is discovered to relieve their horrible agonies; a remedy, simple in its application, and sovereign in efficacy! worthy of the attention of men, and praise of ages! increasing the dignity, and advancing the glory of the healing art, through the absolute perfection of the sanative virtues of its application; this is the DASHING OF COLD WATER ON THE LOWER EXTREMITIES AND BOWELS, EVER effectual to solve the most inveterate obstruction.

22. *Cold affusion* then applied to the belly and extremities, is the infallible remedy for dissolving these obstructions of the intestines, and even for evacuating their noxious excrements, in cases of the most desperate com-

plexion. The mode of the operation of this great remedy, effectually applied, appears evident to every disciple of *Æsculapius*, tolerably conversant with the studies of animal nature,—the bracing powers or effects of cold water dashed on the belly and lower extremities, with sufficient force and duration, undoubtedly constringes the muscular fibres of the intestines by its refrigerant virtues, and incites the energy of their moving powers to propel their excremental contents downwards, and thence the obstruction in every given case is completely removed on the evacuation of the bilious, glutinous, putrid, black, hard, or noxious excrements, that have been so long immoveably fixed in the cavity of the compressing intestines, to the unspeakable relief of the distressed patient. In cases of these obstructions there is great retardation, or total suspension of the propellent motion of the intestines, or a cessation of their expulsive energy, in the weakened parts occupied by the indurated feces, depending on the torpor in the nerves and fibres of the peristaltic motion, or there is an inversion of this motion in the portion of intestine containing the obstructed excrements, whereby the vital part below the obstruction will act in direct opposition to the sensible part above the obstruction, creating an orbicular compression of the contained excrements; the preternatural contraction of the intestine below the obstruction, will oppose the natural contraction above the obstruction, producing a total retention of the excrements in the affected portion of the intestines, and all the evils of direful obstruction, on the supposition of a circular compression or action in the middle of the two opposite combatant contractions; hence we may account for the retention of excrement, and spasms of the sensible intestines.

23. But it may be asked, how does the powers of cold affusions remove the preternatural contractions below the retained feces, and re-establish the propellent energy of the affected portion of the intestines? We would only observe, in answer to this question, that the remedy designed by nature to effect the curation of these obstructions, relaxes the preternatural contraction, and restores the natural energy of the peristaltic motion of the torpid portions, whereby the natural motion is able to overcome all obstacles or impediments of the preternatural spasms in the

solution of the obstruction. If the retention of excrements is induced by a diminution or suspension of the peristaltic motion of the intestines, then the remedy will recreate the natural motion, which being increased beyond the usual degree of its natural energy, will soon remove the obstructions of their vital tube.

24. Some authors have recommended standing or walking with the bare feet on a cold damp floor; the application of snow, or pounded ice, or towels wetted in a solution of the muriate of ammonia and nitre in water, to the region of the belly, which have been found, in some cases of obstinate constipation, to have been attended with good effect, when all other remedies have failed; but the best mode of applying the cold affusion in the cure of intestinal obstruction, is throwing cold water on the feet, legs, thighs, and lower region of the belly of our patient, in a sitting or standing position; the disease seldom requires a repetition of this operation; generally copious evacuations of offensive or bilious excrements are produced in the course of half an hour, and all the distressing evils of local obstruction consequently cease. We can not depend so entirely on the other methods of applying cold to the body, as we can rely on the general affusion or immersion of the inferior part of the naked body. This way of curing obstructions of the intestines, is the most infallible method ever proposed to the world, being always effectual in the most inveterate cases of the disease; the metallic, the spasmodic, the stercoraceous, the accidental, and the bilious modifications of obstruction of the intestines, will all readily yield to the bracing powers of cold from the water dashed on the body.

25. "Two obstinate cases of *colica pictorum*, arising from exposures to cold," says a writer on medicine, "very lately came under my care, which resisted fomentations, warm bath, anodyne and tobacco clysters, the internal use of opium and cathartics, and which at last were readily and quickly removed by placing the patient in a large tub, and throwing a pail of cold water over the abdomen and thighs. The operation was not required a second time; for copious evacuations soon took place, when the spasmodic affection was prevented from returning, by small doses of opium repeated from time to time;" and then delivers his false theory respecting the manner of the action of cold on the intestines: "the benefit obtained by

dashing cold water upon the extremities in this disease then seems to be owing to the sympathy which exists between them and the intestines; the fibres of the latter being relaxed, while the sudden contraction of the vessels on the skin, in consequence of the application of cold, determines the flow of blood inwardly, and occasions a copious secretion from the internal surface, whereby a free expulsion of their contents quickly ensues;" which, in our opinion, seems to be owing to the tonic power of cold on the moving fibres of the intestines, bracing them, and imparting a sufficient quantity of energy of the peristaltic motion, to expel their indurated or noxious contents, and to liberate them from the irritating presence of such excrements, which continually excited intermittent spasms and pains, or continued the spasmodic contractions of their muscular tube.

The celebrated and judicious Cullen, had far correcter views of the action of cold on the intestinal viscera, in the cure of this disease, when he observed in his first lines of the practice of medicine, "When every purgative has failed, the action of the intestines has been effectually excited by throwing cold water on the lower extremities," which implies the manner of its action and a perfect reliance on its virtues; whereas the observations of Thomas, intimate his own doubts of the infallible efficacy of the application of cold water; and clearly indicate, that he placed no confidence in the remedy, more than he depended on the virtues of others which he enumerates, having had no experience of its benign effects, except in the two solitary cases, wherein he found it sovereignly effectual in removing the obstructions. He mentions the remedy in a cursory manner, he uses a vague way of expressing his sentiments of its utility, he urges its application with no apparent confidence of its great and infallible sufficiency; he cursorily enumerates it among the other sets of remedies, which have been occasionally attended with success in the practice of former ages, and even insinuates its total failure in curing these obstructions of the intestines, when he says, in reference to all the forementioned remedies, "Where these means fail to produce the desired effect, it is customary to have recourse to anodyne or tobacco clysters, either in the form of infusion" or fumes, giving the pre-eminence to the virtues of this deleterious herb.

27. And we are not conscious of its being ever considered an infallible remedy, and employed as such in every case of intestinal obstructions, formerly invincible to all other remedies, previous to our promulgation of its all-sufficient virtue and efficacy; yet we do not mean to propose the application of cold affusion and immersion, as a sovereign specific in every gradation of the disease, as mercury in the venereal contagion, or sulphur in the cure of itch; but we intend to recommend its application as an infallible catholicon in curing every gradation and modification of intestinal obstruction, consisting of an inversion of the peristaltic motion, partial constrictions, spasms, or torpor of the moving fibres, a total retention of the excrements, or presence of worms in the intestines. We promise an infallible cure of every case of obstruction, from the proper application of this remedy in the hands of all practitioners, who perfectly understand the nature of the disease, and the virtues of the remedy proposed; we do not promise universal success from the mere application of this certain dissolver of intestinal obstructions, employed by every ignorant pretender to the healing art, no, because such an unskillful practitioner may apply this remedy in the last period of the disease, when an inversion of the peristaltic motion and morbid constriction of the intestines may be the only evils remaining after the complete annihilation of the obstructions themselves; he may suppose the pains, gripings, and spasms of the intestines in cases of callosities, concretions, collections of bloody matter, acidities, and crudities, and inflammations of the intestines, pains of the womb in cases of difficult-menstruation, to proceed from pure obstructions, especially when the agonies of these diseases in some degree resemble the intermitting pangs of feculent obstruction. The blunder committed in such an instance would be egregious and dismal; the application of cold affusion would be followed by no benefits in these diseases, and the infamous blunderer would be so chagrined on his ill success, that he would maliciously attempt to asperse the discoverer, and to deny the sufficiency of the remedy, as happens continually in the common course of the practice of impostors.

28. How often do we perceive medicines to rise into verbal repute, and die in the field of practice, without performing a single cure. Behold the scullcap, the stinkweed,

the hemlock, the cinchona, the motherwort, the ergot, the lichen, &c. which have been highly recommended in the cure of different diseases at their introduction, and have now sunk into oblivion. Witness the fate of wine and brandy in the treatment of *tetanus*, or *lock jaw* ! behold the end of salivation in consumptions, fevers, and fluxes ! forbid that we should propose remedies like these which always fail us in the trial of their virtues, or destroy the subjects of their administration. We prefer remedies which will stand the test of experience, and answer all the proposed ends and intentions in the hands of the judicious practitioner. Purgative medicines, opiates, warm bath, and nourishment properly administered, and timely employed with all the judgment, perseverance, urgency, and vigilance, necessary in every case of violent disease, will never fail to effect the cure of dysentery. So in all cases of intestinal obstruction we are to depend on the whole method of curation in the use of special remedies ; a method of treatment which every wise practitioner will rightly institute to himself, and will accommodate all the remedies to every particular case of disease, as well as conform the medicines to the strength and peculiarities of each constitution ; we must not depend upon any particular medicine or application in curing these obstructions ; we must confide in the virtues of all the remedies properly adapted to every period and degree of the disease, in their proper order, according to the indications of cure ; and not to the bare cold affusion alone in cases of obstinate inversion of the intestinal motion, after the removal of obstruction, lest we should experience the painful mortification of seeing our patients languishing under the agonies of unsubdued commotion of the intestines, and the dismal evils of great exhaustion ; we therefore recommend the use of cold affusion to remove the obstructions ; purgative medicines to cleanse the intestines ; opiates to assuage the torturing spasms ; mercurials to alter the morbid condition ; and nourishment to support and impart strength to the constitution in regular order of their absolute requisitions. This shows us the necessity of attending to the indications of cure in the new method of treating these obstructions.

29. 1, We should attempt to remove the present obstruction of the intestines by the most vigorous use of evacuating remedies, viz. purgative medicines administered in potions and injections.

2, We should immediately flee to cold affusion or immersion, on the event of their failure in solving the obstruction, as the safest and most effectual remedy in this direful malady.

3. We should administer powerful cathartic medicines to evacuate the morbid contents of the intestines, in order to liberate them from the irritation of acrid excrements, after the solution of the obstruction.

4, We should endeavour to restore the natural condition and motion of the diseased intestines by alterants, opiates, and corroborants, when injuries of their coats, palsy of the extremities, &c. exist.

30. The first indication of cure, is to remove the obstruction of the intestines by the urgent administration of cathartic medicines, as the most natural way to commence the treatment of a disease of obstinate constipation. The submuriate of mercury, given in doses of 10, 15, or 20 grains in the form of pills, and repeated as circumstances may demand in every particular case, is the most effectual and eligible of all other purgatives in the obstructions of the internal viscera, especially exerting its powerful and salutary effects on the intestines themselves. The great specific gravity, the smallness of the bulk, and the searching quality of this medicine, render it more likely to be retained on the stomach to solve the obstruction, than any other substance of cathartic powers, known in the dominion of nature. This preparation of mercury ought to be administered in preference to all others, in all those cases where great irritability of the stomach, and great efforts of vomiting exist. Epsom salts, jalap, aloes, colocynth, castor oil, senna, supertartrate of potass, and tartrate and sulphate of potass, sulphate of soda, rhubarb, seneca scammony, in proper preparations and forms, are excellent purgative medicines, and may be largely exhibited during the absence of vomiting; some other drastic purgatives might be enumerated among this class of remedies, as gamboge, gratiola, elaterium, asarum, sanguinaria canadensis, mercurialis, iris, panduratus, tarpethum, mechoacanha, carthamus, agaricus, anona, anagallis, flores sambuci, veratrum, esula, nœcotiana, linum catharticum, rhamnus, but these are seldom exhibited in the practice of the present day, either on account of the intolerable violence of their operation, or of our having substi-

tutes far milder and more effectual in their cathartic powers, to their utter rejection in practice. Strong clysters, composed of common salt, sulphate of soda, castor oil, sulphate of magnesia, jalap, turpentine, marine water, or aloes and an infusion of senna, or the blossoms of elder, or a decoction of mallows, must be administered at the same time, and repeated every half hour, till copious evacuations are produced, either by them, or the purges received into the stomach; should they have great irritation and uneasiness in the great intestine, we should then inject a gallon or two of tepid water into the bowels in order to dissolve, if possible, the obstinate obstruction of their living and sensible canal. But if the obstruction resists all these remedies, vigorously employed and executed by the skillful head and benign hands of the faithful practitioner, even after they have been continued a sufficient length of time and abundantly repeated, we must, without a moment's hesitation, flee to the great remedy for dissolving these intestinal obstructions; namely, the application of cold water to the lower portion of the naked body. This course of treatment seems to be absolutely necessary; more especially when the most excellent and powerful cathartic medicines have been rejected from the stomach, and all those clysters tried in vain to solve the obstruction. We would dissuade all men from administering metallic quicksilver, or the terrible infusion of tobacco, unless the repeated application of cold immersion and infusion should totally fail with the use of all other auxiliaries, when we might, as a dernier resort, exhibit the infusion, in expectation of solving the spasmodic contractions of the intestines. This brings us to the second part of our method of curation, included in the same indication presented to our view.

31. As soon as we find ourselves baffled in all our efforts to remove the invincible obstructions of the intestines, with the assiduous and vigorous administration of the most powerful cathartics, in the form of potions, pills, and clysters, on account of the incessant vomiting; we must resort necessarily to some other remedy, deemed efficacious in dissolving these obstructions. None in the wide domain of nature can so effectually exterminate such obstructions of this vascular tube, as the dashing of cold water on the belly and lower extremities, in the manner we have

directed in a preceding part of our dissertation. If we had the least apprehensions of any frustration being ever experienced in the curation of intestinal obstruction, with the application of cold water, in any given case, we should wisely prescribe another remedy, which might infallibly educe the stagnated excrements, and solve the obstructions; untill we are defeated to remove them by the application of this remedy, we shall ever persist to urge and employ it in all cases of pertinacious obstructions of the intestines.

33. The second indication of cure in the treatment of this disease is to exonerate the bowels of all their bilious, glutinous, indurated, and noxious contents by the use of purgative medicines. The effects of cathartic remedies in the evils consequent to obstructions of the intestines, are very salutary and beneficial to empty them of all the acrid, putrid, and acid contents; whether hardened excrements, extraneous substances, irritating bile, or terebrating worms. The proposition of this evacuation is founded on the certain facts of hard and glutinous lumps of excrements, or collections of bilious matter being retained and lodging in the folds and valves of the irritable intestines, producing all the evils of pains and spasms, inversion of the peristaltic motion, and vomiting; even after the solution of obstructions effected by the cold affusion; which noxious excrements must be completely evacuated previous to the administration of opiates to calm the internal commotions, and to afford an opportunity of taking nourishment.

34. The most efficacious of all the purgative medicines, in this second stage of the disease, is the omnipotent submuriate of mercury; this medicine operates effectually in emptying the bowels, it acts benignly on the absorbent and excretory functions, it resolves the constricted fibres of the intestines, it revives the natural mobility and activity of their muscular contexture; it restores their peristaltic energy, it promotes all the secretions, it permeates the universal system, and exterminates every obstruction of the nerves and glands; it is owing to its general influence on the functions of the animal body, that we have preferred it to all others in the cure of the bad consequences of the intestinal obstructions, or in the curation of the injuries of the intestines; it is on account of the super-excellent vir-

tues of the submuriate of mercury in the diseased state of these viscera, it is the good local effects on the affected portions of the intestines, and functions of the brain, which induce us to urge the administration of this medicine, possessed of so many singular virtues.

35. To accelerate the operation of purgation, we may combine with the submuriate of mercury any other cathartic medicine, such as jalap, aloes, colocynth, rhubarb, gamboge, or scammony, or we may exhibit the sulphate of magnesia, super-tartrate of potash, the phosphate of soda, the infusion of senna, tartrate of potass, castor oil, or the sulphate of soda, in the course of three or four hours after the sumption of the submuriate of mercury, to insure ample evacuations. If the peristaltic motion is so intolerably inverted that nothing will descend into the rejecting intestines, we must in such a horrible case of reversed action, have recourse to the use of mild cathartic clysters; as marine water, salts, infusion of senna, or decoction of barley with tartrate of potass, which will most probably ascend into the stomach and be ejected by the mouth, cleansing the universal canal of the intestines.

36. In all cases of the disease, accompanied by an obstinate inversion of the expellent motion, mercury, and demulcents, are most potent remedies to reverse this preternatural action, and to re-establish the natural and sound uniformity of their motion and sensation. The morbid secretion of bile, the imbecility of the irritable intestines, the diseased condition of their tender fibres may all unite to perpetuate the terrible commotion, and to prevent the reception of nutritious aliment; these are the great evils which render all our efforts seemingly fruitless, in violent cases of inversion of the motion of the intestines; and we should exert all the powers of our medical intellects, to remedy these mighty impediments in the way of a complete restoration. But we must never give up the use of these powerful means, we must never abandon our patients in the midst of accumulated miseries, we must endeavour to rescue our patients from approaching dissolution; we must conscientiously and faithfully persevere with all diligence in the use of remedies; let us exert every nerve, and we shall soon enjoy the unspeakable pleasure of being able ultimately to overcome all those obstacles, and of restoring our suffering patients to perfect health.

37. Opiates suspend the inverted commotion, still the spasms, numb the pains of the intestines, and compose the sick into a desirable repose; they also resolve the morbid actions of the muscular fibres of these viscera, open the pores of the skin, and afford grand opportunities of administering nourishment sufficient to preserve the poor remains of life, during the intervals of relief obtained by them, till these important viscera are permanently established in the healthy exercise of all their natural functions. If we should apprehend the least degree of inflammation in the surface of the intestines, bathing the feet in warm water, warm fomentations of hops to the belly, warm bath, and in robust patients, bleeding, are necessary, and ought to be employed in the first approach of the inflammation, repeating them according to circumstances.

38. Refreshing draughts of mild aromatic cordials, carminative beverages, reficient infusions of tonic bitters, nourishing soups, demulcent decoctions, and grateful potions of exhilarating and chalybeate waters to comfort and support the sick, labouring under the pressure of the evil consequences of this horrible malady, are necessary in the last period of the disease to perfect their restoration. Whenever the great violence of the evils of intestinal disease affects the nervous system in an alarming degree, producing torpor and stupor of the extremities, we may apprehend the approach of total and dismal palsy of these members, and sometimes permanent contractions of the hands and the feet, which would render the patients completely miserable, and cause them to linger many wretched years of an intolerable existence. In such threatening appearances we ought to proceed with tenfold diligence and penetration in the urgent administration of those remedies, which are most effectual and sanative in preventing or removing these dismal consequences of intestinal obstructions; and none, we imagine, is as beneficial as the internal use of the submuriate of mercury in combination with diuretic, diaphoretic, and cathartic medicines.

39. Should our patients appear to sink in a state of great debility from the long duration of the disease, stomachic bitters, genial tonics, aromatic restoratives, benign nutritives, pure cool air, cold aspersion of the body

with a sponge in the summer season, generous drinks, exhilarating company, sound sleep, mental solace, and congenial sympathy of the attendants are absolutely necessary, and mightily contribute to complete the recovery. These are powerful auxiliaries in cases of extreme exhaustion and emaciation to strengthen convalescents, who have long suffered the agonizing tortures, and the consuming evil effects of a protracted disease; but the timely use of the cold water will always dissolve the obstructions in good time to prevent all these fatal or pernicious consequences of inverted motion, injury of the intestines, and extreme emaciation. When palsy supervenes in the first stage of the disease, before this universal exhaustion ensues, the external frictions of the palsied extremities with mercurial ointment, contribute powerfully to remove the loss of sensation and motion; we have often cured this species of palsy, originating in obstructions of the intestines, by the internal use of the submuriate of mercury, and the applications of mercurial ointment externally, carried to the full completion of salivation, even where great affection of the brain had ensued in previous attacks of the disease. In cases of long and repeated obstructions, we have seen the brain affected with violent intermittent pain; the patients during the paroxysms convulsed into apoplectic stupor of all their senses, epileptic contraction and tetanic torpor of the universal frame, and restored to perfect health by the use of diffusive stimulants, and the resolving powers of the submuriate of mercury, even after complete palsy of the one half of the body had long existed.

40. Dysuria and Ischuria are other great evils that often occur in cases of violent bilious obstructions, and inverted commotions of the intestines, especially in the latter period of the disease; these diseases, as well as other fixed pains of the viscera, may be relieved by opiates, demulcents, warm baths, and the catheter. Epilepsia, or convulsions, may also supervene in violent cases of the disease, and we must proceed to remedy it in the same method we have instituted for the cure of consequent palsy and falling sickness, and of the bad consequences of the obstructions. Hysteria too often occurs in these obstructions; and in addition to the remedies we have already prescribed in the obstructions themselves, we have only

to add the medicines most beneficial for removing that flatulent disease, as assafoetida, sulphuric æther, ginger infusion, decoction of valerian, hartshorn conjoined with aloetic purges.

41. Tetanus, or rigid spasms of the jaws and neck, or whole body, often arise in obstinate cases of intestinal obstructions; but this combination of the disease requires the same remedies recommended for the obstructions themselves. Many other combinations of this horrible disease might be mentioned in this place, but as the success in the method of cure, which we have proposed, depends on the skill and judgment of the practitioner wisely and diligently fulfilling its great indications of curation, we shall leave them to his penetration and wisdom, and shall close our discourse with a subjunction of a few testimonies and attestations of the constant and infallible success of our method of curing the forementioned obstructions of the intestines. Especially as we consider them cases of the most direful intestinal obstructions, with all their terrible combinations successfully treated, of great importance to the world, and of great advantage to physicians in the history of their curation. We shall, therefore, subjoin a concise history of three or four cases, which have lately occurred in this city; and we venture to say that the living monuments of the restorative powers of the remedies employed, would come forward to attest the notorious facts of their surprising recoveries.

CASUS PRIMUS.

42. G. A. aged 35 years, strong and robust, accustomed to full living, habituated to the frequent use of spirituous liquors, formerly inured to hard labour, exposed to the heat of a burning sun, constitutionally costive in the bowels, is subject to obstructions of the intestines with violent pains in the posterior part of the brain, and accompanied with palsy of the right side, especially of the muscles of the mouth and eye; has undergone temporary oblivion of all the senses, or fits; has been frequently relieved by the use of strong purgative medicines, given to remove the agonies of the head; has been attended by

many physicians of the city, none comprehended the real nature of the disease; supposed it to be an organic affection of the brain; has been bled, and blistered in the head repeatedly, for the supposed disease of the brain; has devoured an ocean of medicines in vain; has already been six weeks under the most excruciating tortures of an agonized brain; has a family dependent on him, and his attending physician invidiously refused to receive my consultation on his dreadful malady. These are the principal circumstances of the case related by the patient himself, in answer to my scrutinous inquisition into the causes and nature of the disease. For he dismissed all the other physicians.

43. On the 11th of October, 1817, he sent for me in opposition to all the invidious objections of his former physician; and in compliance with the salutary advice of a real friend, in the morning watch of the night; and on my appearance he informed me of all the circumstances of his sufferings in expressions of despair, viz. that he had not slept an hour together, for six weeks; had been all that time confined to bed; had undergone agonies worse than death; was now about to perish under them in this state of horrible emaciation; had vomited all kinds of food and drink, from the beginning of the head-ache: adding, that he had called me to see if I could afford him any relief and that if I could not help him, he would perish in the course of fourty-eight hours; because no other physician was able to save him, and he was unable to endure such impatible torture; I was moved with pity at his deplorable condition! I was struck with the consumed appearance of his miserable body! I became impatient to relieve the intolerable agonies of his afflicted brain, and the incessant vomiting, returning with every accession of the intermittent pain! and replied, in the confidence of helping him—"I think I can help you very soon;" in order to inspire him with some hopes of recovery, and to ensure the confident use of my remedies, and immediately proceeded to administer those medicines, which I intuitively proposed to myself on understanding the nature of the disease.

44. The first indication in the method of curation, which I then instituted for this dreadful malady, was to remove the internal obstructions of the intestines, and evacuate

their injurious contents, and to correct their morbid condition, that had induced all those agonies of the brain, palsy of the right side, in consequence of the disease of the fountain of all nervous influence, and the incessant vomiting induced by the combined irritation of the obstructions of the intestines, and the secondary confusion and disturbance of the brain, morbidly affected at the origin of the nerves of motion and sensation. Thus I intended the removal of the efficient causes existing in the bowels.

The second indication of cure was to eradicate the morbid effects produced in the brain, and to remove the obstructions of the nervous influence thence proceeding, to perfect the restoration of the health of my patient.

45. I proceeded to remove the exciting causes, viz. the obstruction and torpor of the moving fibres, and the excremental load of the intestines, in order to prevent the repetition of the awful paroxysm of insufferable agonies, which consisted in excruciating intermittent pain in the posterior part of the brain, within the inferior portion of the projection of the occipital bone of the head; concomitant vomiting of the contents of the stomach and intestines; vehement contortions of the whole body during the continuance of the agonies; consequent stupor of the senses, and torpor of the universal frame, or a total oblivion of all sensation and motion, following in regular succession the dreadful agitation. This paroxysm of consummate miseries was generally finished in the course of half an hour, and as often reverted in all its violence. No fever existed in the body; the pulse was rather slow and hard; belly was contracted; no evacuations for many days; tongue white; urine red; great thirst; skin dry; immense prostration of strength; countenance ghastly; which clearly demonstrated to my intellectual discernment, the causes and nature of the disease, characterized by two great signs of distinction, the primary obstruction of the intestines, and the secondary perturbations of the brain, which immediately imparted to me the immediate knowledge of the method of curing them, followed in the course of the treatment of the subsequent case of this distressing malady.

46. The first medicine I administered in conformity to this instituted method of cure, was the following energetic purge:—I took ten grains of the submuriate of mercury, and a drachm of jalap, and mixed them in combination, in currant

jelly, as a convenient vehicle, and caused him to swallow it in my presence, and ordered it to be repeated in the course of two hours, on the event of its not purging the bowels. After the effectual operation of this medicine, I commanded him to take twenty drops of the tincture of digitalis, four times a day in cold water, in order to relieve the confused brain, and assist the effects of the purge; allowed him saline draughts of the water of the acetate of ammonia, and ginger beer, decoctions of Indian arrowroot and barley, forbid all solid food; enforced quietness in the apartment; ordered bathing of the feet and head.

47. I called in the evening, and received the joyful intelligence of the remarkable effects of the purgative medicine, which had completely evacuated the intestines of the most offensive, putrid, and noxious excrements; and so wonderfully relieved his stomach and brain, that he slept soundly all the remaining part of the day. This was the first sleep he had enjoyed these six weeks past; says he feels as if he was in a new world. I prescribed the repetition of the dose of the submuriate of mercury alone, and ordered all the other remedies to be continued. Oct. 12th, Appeared very easy; had two slight paroxysms in the course of the past night, slept a considerable time, vomiting has ceased, complains of a numb feeling in the affected part of the head, the palsied eye remains wide open during sleep, muscles of the mouth on the right side, are still destitute of motion. I again ordered four ounces of epsom salts to be taken immediately, as the calomel had not operated, and the dose of mercury to be repeated again at bed time, to solve the general torpor of the intestines.

48. Oct. 13th. He has experienced very slight and evanescent accessions of the pain since yesterday; a genial moisture on the skin; urine more natural; pulse regular; medicines produced little purging effects; watched all last night, on account of sleeping in the day; now inclined to sleep; desires food; allowed him soup, and ordered the dose of ten grains of the submuriate of mercury to be repeated in two pills; all the functions nearly natural.

Oct. 14th. He complained of no pain in the head; bowels are well purged by the combined powers of cathartic medicines; the palsy still remains; let him have nutritious diet.

Oct. 15th. He experienced some slight tingling pains, of the head since yesterday; has had no stool to day; let him take the submuriate of mercury in five grain pills every two hours, till salivation is produced. Let him omit the digitalis.

Oct. 16th. His gums are tumid and painful, belly rather bound; let him take a drachm of jalap. Oct. 17. Medicine operated little; he walks about in his apartments, eats and drinks, has experienced no return of the headache let him take four ounces of epsom salts.

Oct. 18th. The medicine produced two or three scanty motions; bowels still labour under the influence of torpor; let him have drastic pills composed of the submuriate of mercury, aloes, colocynth, gamboge, scammony, and oil of peppermint, to excite purging and correct the state of the intestines, and let him use the warm bath in the evenings.

Oct. 19th. He has no complaint except the numbness of the head; evacuations still scanty, let all the medicines be continued.

Oct. 20. Copious discharges of very putrid excrements, by the drastic purges; let him continue his medicines.

Oct. 21. His appetite is good, dejections free, still of a black and noxious appearance; let him omit the pills and take epsom salts to-day.

Oct. 21. Functions all natural; alvine evacuations copious, and walks about as usual; but the palsy still remains in the same degree. I have considered him convalescent. He may repeat the pills occasionally, to preserve the regular dejections of the intestines, till the natural activity of their moving powers is perfectly restored, omitting the submuriate of mercury in the composition, as the gums are greatly inflamed and teeth loosened.

50. Now we may learn from the history of this remarkable case of obstruction of the intestines, producing a loss of sensation and motion in the side; especially of the head, without any great pains of the bowels themselves, these three important facts and positions, 1, that all the evils in the head proceeded from the obstruction of the intestines as appears from the notorious facts of the disease of the brain vanishing as soon as the dead and obstructed state and condition of the bowels were corrected and removed by the use of purgative medicines. I believe, however, that the

virtues and effects of mercury on the bowels, on the brain, on the nerves and muscular fibres, were the efficient powers which eradicated all the morbid evils existing in those important viscera, and permanently re-established their sound and healthy actions and motions in his constitution, together with the auxiliaries of the warm bath, and those other medicines exhibited in combination.

51. 2, That the secondary mischief in the brain and nerves, continued sometime after the primary local affection of the bowels was removed, and that it required a considerable length of time to dissolve the nervous obstructions. 3, That the disease was unfortunately misunderstood in its nature, and origin, and seat; and that the method of cure was in consequence of this error, falsely instituted, even to the danger of the perdition of the unhappy patient; and that he was saved only by the wise interposition of providence, in directing him to a bodily saviour.

CASUS SECUNDUS.

52. This is a case of violent obstruction of the intestines, supposed to be produced by the action of lead on their muscular and nervous fibres, constituting the most dismal complication of bodily disease, that can be conceived in the wide domains of human intellect.

June 25th, 1817. Elias R——s, a native of England, aged 35 years, strong and robust, a painter by trade, complains of violent pains in the belly, concomitant vomiting, obstinate constipation of the bowels, loss of appetite, anxiety, &c. Let him take a drachm of jalap, and ten grains of the submuriate of mercury in composition immediately, and if this dose does not operate in the course of three hours, let him take two ounces of castor oil, or four ounces of epsom salts in repeated doses, till purging is produced, unless constant vomiting should forbid and defy their administration; and cathartic clysters may also be given.

June 25th. Medicines all rejected, symptoms still urgent; let him take two pills of the submuriate of mercury, containing ten grains each, in the course of four hours, and the strong clyster of the muriate of soda, jalap,

and the infusion of senna must be perseveringly repeated every half hour, till ten are administered; should these fail, inject two gallons of warm water into the colon, in order to solve the intestinal obstruction.

53. June 26th. These remedies have seemingly dissolved the obstruction, and induced copious evacuations. I left him convalescent.

July 9th. Mr. Gordon entreated me to visit him again and try to save his life to his poor family, and promised to pay my charges. Now I find him labouring under a more violent attack of the same relapsed disease, and Dr. S. has attended for several days, and has given many purgative doses of medicines in vain; ordered many clysters; prescribed fomentations; and bled him, supposing the disease to be *colica pictorum*, *painters' cholic*, degenerated into inflammation of the intestines. We consulted together respecting the best method of cure. He considered the patient as mine, as I attended him previous to his being called in, and he proposed a repetition of the bleeding, blistering of the belly, warm bath and laudanum, infusion of senna, and a solution of salts. I agreed to this course of treatment, and put all these remedies in execution.

July 10th. Our patient somewhat easier. Dr. S. again proposed clysters of starch and laudanum, and calomel pills, as the dejections were small. I also administered these remedies with great perseverance.

July 11th. The symptoms have returned with all their former violence; no solution of the obstruction seems to have taken place. Dr. S. neglected to come, and I ordered two ounces of the sulphate of magnesia to be given and repeated in the course of the day, and if the stomach rejected them, the submuriate of mercury to be exhibited in ten grain pills, till three were taken before bed-time. I gave eight strong clysters, used frictions and fomentations of the belly with my own hands, and again left him to endure another sleepless night.

54. July 12th. All the most powerful cathartics, clysters, anodynes, antispasmodics, frictions of the belly, were again tried in vain. Dr. S. never returned; his opinion, and the opinions of all were, that he would inevitably perish. I reluctantly left him to suffer another miserable night.

July 13th and 14th. The severity of the symptoms somewhat abated.

July 15th, 16th, 17th, 18th, and 19th. The disease seemed to vanish by the powers of drastic purges.

July 20th. All the symptoms returned in their wonted violence. I proceeded on the same plan of cure to remove the obstruction; but principally depended on the use of the submuriate of mercury for dissolving it, as I found the bowels in a very torpid state. I also administered epsom salts. I believed the whole cause of the repetition of the disease to be this torpor of the intestines, and consequently always endeavoured to remove it.

July 21. The submuriate of mercury has affected the mouth without loosening the obstruction of the bowels, and all the evils continue, notwithstanding every remedy being urged with the utmost exertions. I gave him an opiate to compose him in the night.

July 22d and 23d. Continued in the same state; I used tobacco clysters in vain.

July 24th. Experienced a notable remission of the urgent symptoms, by the use of the cathartic mercury and salts.

55. July 25th. All the evils returned in their usual vehemence, and I began to observe a remarkable sinking of the animal powers; great exhaustion; racking tortures; incessant vomiting; and deplorable emaciation seemed to premonstrate the approach of sudden dissolution; yes, in the course of twenty-four hours, if immediate relief is not obtained. I used all the remedies ever employed in the cure of intestinal obstructions. Tobacco clysters and quicksilver, I urged with the greatest vigour. I continued these till all hopes of success in any future trials had for ever vanished; when it just occurred to me that some external remedy might still be tried to dissolve the hitherto invincible obstruction of the intestines. I remembered the great effects of cold bath on my own body in educating the excrements—I recollected the wonderful powers of pounded ice and snow on a strangulated hernia—I considered the remarkable effects of cold applied to the naked body, on the sensible intestines, and immediately concluded, in my own mind, that cold water, applied to the lower extremities, would infallibly dissolve the obstruction of the intestines, by bracing their fibres,

and restoring the natural energy of their peristaltic motion. Then I lifted my emaciated patient out of bed, placed him in a chair, and dashed cold water over his belly and lower extremities with great force and replaced him in bed in the evening of the day.

July 26th. In the course of half an hour after the cold affusion last night, great lumps of glutinous, black, putrid, and offensive excrements were evacuated, and all the symptoms of intestinal obstruction in consequence vanished, to the unspeakable joy of his poor family, and all the surrounding friends. I then corrected the torpid condition of the intestines with calomel and other purges, and charged him respecting his future diet, and the disease has never returned, even to this day.

CASUS TERTIUS.

56. Another case of obstinate obstruction of the intestines, which proved invincible to all remedies commonly recommended in cases of indissolvable constipation of the bowels, ultimately cured by the cold effusion alone.

March 25th, 1820. Terence T——y, aged 34 years, a native of Ireland; complains of violent pain in the region of the navel; incessant vomiting; pains in the head; long costiveness; and of having been thrown into convulsions in consequence of these agonies. I found that he was addicted to spirituous liquors; irregular living; lived in a damp house, and was much exposed to the vicissitudes of the weather; has some fever. I gave him a powerful dose of the submuriate of mercury, and administered many strong clysters in the course of this day, which remedies produced no good effects in removing the obstructions; although the clysters caused copious discharges of fetid excrement.

March 26th. Has taken six five grain pills of calomel without any operation; medicine yesterday was rejected. I again repeated the clysters, ordered fomentations, and commanded the pills to be continued.

64. March 27th. All the symptoms of a most grievous obstruction of the intestines are now increased; no hopes of relief from any of them, except the cold adfusion, and

he will not submit to its application, on account of the coldness of the weather and his chillness. I left him to reap the fruits of a miserable night.

March 28th. Yesterday he called Dr. S. who proposed warm bath, blisters to the belly, clysters, and mechanical dilatation by warm water; all these were employed in vain, and we had to leave our patient to another restless night.

March 29th. Sent for me early in the morning, prayed me for God's sake to come and save his life, in the application of any remedy I pleased. I hastened to his chamber, ordered him out of bed, dashed cold water over his shivering limbs, and replaced him under the blankets, and in the course of half an hour, a pint of oily gall and putrid matter was dejected from the intestines, and all the symptoms of obstructions for ever disappeared.

CASUS QUARTUS.

This is a most important and notorious case of an obstruction of the intestines, produced evidently by long fasting, cold feet, and a voracious repast, and cured by the urgent administration of cathartic potions and injections, where the direful consequences of it were far more intolerable than the obstruction itself. For the peristaltic motion of the intestines being inverted previous to the solution of the obstruction, augmented insufferably with the presence of bilious excretions, and of excrements retained in the valular complications, or doubles of the irritable colon, notwithstanding the daily and multiplied use of purgative medicines. Some physicians considered this case of inveterate disease *bilious cholic*; others imagined the presence of great inflammation of the intestines; but all unanimously agreed to pronounce it irremediable. Alas, for the helpless patient! alas, for his helpless infants and miserable spouse! may the God of mercy protect the innocents.

57. Dr. K. Dr. M. Dr. M. Dr. M. Dr. G. Dr. C. and Dr. D. all visited him successively, and in consultation. One proposed bleeding and he was bled; another advised warm bath and fomentation, and he was bathed in warm water; a third mentioned purgatives of calomel, and he was repeatedly purged; a fourth promised success in the use of

laudanum and barks; his stomach rejected them both; a fifth urged the necessity of nourishing aliments; the stomach retained nothing; a sixth ordered opiate clysters; they instantaneously escaped from the mouth; and the seventh suggested pills of solid opium and chicken soup to be administered alternately in regular succession, and saved his life, after the endurance of ten days of despair, under the awful pressure of multiplied agonies.

58. This divine course, suggested to the judicious patient, was conceived in the depth of human wisdom, and matured in the womb of penetrating genius! Either the superior power of human skill, or the God of nature saved him! The unparalleled nurse so divinely qualified, and providentially sent, directed the wheels of the saving course! no deviation of her intellects, no alterations of her benevolent hands ever marred the course of her procedure! and the anxious patient was the sovereign guide. Ten days tolerance of the exquisite tortures of inverted action drained the patient's vital moisture, and presented him a spectacle of emaciation! eight weeks of diurnal and nocturnal vigilance, unnerved the faithful matron, and constrained her to repose! nothing was wanting to solace the mind and refresh the body of the wretched sufferer! no species of nutriment, no kind of application, no sort of beverage, no situation of his macilent frame was denied him.

59. Having in that space of time affected a notable tranquillity of the internal commotion, and diffused a hopeful serenity over his meagre countenance, by the constant use of opium, reficient aliment, and conducive attendance, I still continued my incessant exertions to raise my patient from sinking extenuation and debility, as well as to remedy the new evils which daily occurred in consequence. *Dysuria* was a long, tedious, and painful mischief to retard his convalescence. I applied warm fomentations to the pubes or bottom of the belly, ordered small doses of nitre and gum arabic, allowed the opiates in diminished doses, and prescribed bathing of the feet, and it vanished in the course of two months. *Tumours* of the feet and legs were other great evils, which I had to combat during his convalescence. To brace the weakened contexture of the crural integuments, I ordered cold marine water to wash them frequently; a cotton roller to enwrap his swollen limbs,

and, as he could drink nothing vinious, or spirituous, or warm, I ordered soda water for his constant drink; bitters occasionally, and mild laxatives. This tumid state of the feet was attended with the most excruciating pain in the calf of the leg, that my patient could not move it out of bed for two or three weeks. I applied blisters, fomentations, anodyne frictions, and ultimately cold affusion, in vain; it ran its course, and disappeared on the acquisition of strength. Another consequent evil continued to impede the convalescence, viz. the great irritability of the stomach and intestines, which prevented the use of solid food, wine, and even thin and light gruels, except in very small quantities. The presence of any thing in the bowels, irritated and distressed him. His belly was tender, and painful on pressure; he had a slight fever in the course of the protracted disease, arising from irritation and debility, and the tongue was white. The disease occupied the colon principally, and there seemed to be a constriction of it near its left curvature, about the middle of the stomach. As this case is so interesting to all parties, I shall also translate some particulars of the treatment, as an extract from my latin journal.

Feb. 6th, 1817. M. E. aged 30 years, a native of Caledonia, lank and tall, delicate in the constitution of his intestines, subject to bowel disorders, otherwise strong and healthy in the absence of ventral diseases; was seized last night immediately after a hearty repast, in consequence of twelve hours fasting in the damp cold of the brumal month, with a violent pain in the region of the navel, arising from the intermittent spasms of the intestines, extending its intolerable anguish inversely along their capacious tube, even to the sensible stomach, producing nausea, and distressing vomiting of their contents; this dreadful paroxysm of spasm, with all its concomitants. was generally finished in the course of half or quarter of an hour, and as often repeated; a total suppression of the natural excrements also existed. His stomach rejected all purgative medicines, and twenty clysters were exhibited in the course of this restless day, without affording any alleviation of the present agonies; orders were given to administer fifty drops of laudanum, and in the remission of spasm, twenty grains of the submuriate of mercury in two separate doses; and the patient was left to consume a sleepless night.

Feb. 7th. All the symptoms continued in their hester-nal violence; some scanty evacuations of hardened feces happened in the night. The submuriate of mercury was totally ejected from the stomach by vomiting. Injections of warm water, to distend the universal bowels were employed this day in vain.

Feb. 8th. The distressing evils are greatly increased in their frequency and violence; impatible spasms of the stomach, and faintings ensued to augment his misery; the obstruction remains: let the *affusion* of cold water be immediately put in execution. In the course of an hour copious dejections of bilious excrements followed this application in the total solution of the obstruction. Let the submuriate of mercury be now repeated, to cleanse the loaded intestines, and to permeate their vascular tissue; and let an anodyne be given on the event of its effectual operation. The patient was composed to rest.

Feb. 9th. All the symptoms of inverted motion of the intestines began to appear in all the severity of an exterminating disease. The calomel purged previous to the return of pain, and now every thing is rejected, and even the very clysters injected at the fundament, whirled instantaneously up into the stomach and rushed out of the mouth in one continued stream. All the attendants were alarmed at the occurrence, and supposed the immediate approach of death. This produced the most excellent expurgation that ever was induced in the case: but, alas! in a direction repugnant and contrary to nature. I then considered the present stage and progress of the disease, and inferred, that this inversion of the intestinal motion, was the only remaining symptom of a dangerous tendency, that some morbid secretion of the liver, bowels, pancreas, or an abrasion of the intestines themselves, perpetuated this preternatural action, and I determined to pursue the following sanative course of treatment, viz. to still the spasms of the morbid commotion, to dilute the diseased excretion, to correct the morbid secretion, to support the cadent system, and to heal the injured bowels. I commanded the faithful and obedient nurse to give him a grain of opium every six hours, or every eight hours, if it induced any stupor; and during the intervals of ease thus procured by it to administer the most nutritious aliment in small

quantities, and to increase it, as the stomach of the patient could bear the presence of food.

Feb. 10th. I now found this method of curation most successful, and repeated all my orders with one additional command, to give any kind of light nutriment that he desired, and that rested easy on the stomach, as he had a peculiar choice of chicken soup, indian arrow root, boiled bread, eggs, soda water, ginger beer, cold water, infusions of columba root and chamomile flowers; and an utter aversion to all vinous or spiritous liquors, barks, every kind of solid food, calybeates, milk, lime water, and every other kind of drug, except the submuriate of mercury and epsom salts, to exonerate the bowels occasionally of their irritating contents. I again ordered the same course to be continued every day, until all the commotion of the intestines should be finally calmed; and the five days following were consumed in the diligent pursuance of this method of cure, before the natural peristaltic motion of the intestines was permanently restored, when a tedious period of convalescence ensued, in the use of every means to repair the broken constitution.

Many other cases of direful obstructions of the intestines successfully treated on the same method, might be translated and subjoined to this dissertation, but we have deemed these sufficient to attest the facts of the infallible success of this plan in all cases which have come under our care, and to establish the doctrines of their nature and cure which we have advanced in the forgoing discourse. *Morbumque vidi, tractavi, recentem, provectum, diuturnum, annosum, cum omnibus suis variantibus quidem signis, eundum et concomitantibus et subsequentibus modificatum. Nondum morbi naturam obstrusam reperii, nequaquam curandi methodum esse difficilem. Ipsi paroxysmum neque præsentem horruimus, neque exhaustientes vomitus, intolerabiles dolores, convulsiones terribiles, ejulatus penentrantes, spasmos maxillarum dirissimos, distentiones nervorum violentes, paralyses membrorum miserabiles, quæ omnes medici recentes et veteres reperierunt et stupuirunt, ignorantes naturam et curationem. Vitam conservare, dixerunt, oportet emeticis, purgantibus, immutantibus, diaphoreticis, sedantibus, emmollientibus, omni modo applicatis, interne, externe, ore, anagutatur. Sed experientia vera docuit omnia esse in-*

utilia, casibus in multis, eosque ad alia potentiora confugere induxit, ut clysmata fumi et infusi nicotianae, cataplasmata emmollientia toti abdomini circumdata, compressiones manibus, decocta farinosa, balnea tepida, dilata-tiones intestinorum artificiales aqua in anum injicienda, aliaque remedia pauca, quæ infauste omnes eorum spes aequae fefellerunt. Ratio atque experientia externum aquæ gelidæ usum in obstrukciones intestinorum Iliacas aequae ac colicas, educendo dura et retenta excrementa reme-dendas, comprobarunt. Ileum saepe durum allidendo in-ferioribus nudis aquam frigidam sanavimus, aqua enim frigida in corporis nudati inferiora incussa miro operandi modo omnigenas intestinorum obstrukciones a faecibus valde noxiis in horæ dimidio solvet. Frigus, quam diximus priore, constringendo et reficiendo inas intestinorum, materiem obstruentem ileos liberiores in partem impellit, animando motum intestini peristalticum ad solvendum im-pedimentum, eademque constrictionis vi solvet alvum: ignavia enim actionis, inertia motus, paralysis intestino-sum, naturalem energiam impertire stimulantissima reme-dia et cathartica postulant, intus-susceptio intestinorum partium est plaerumque irremediabilis stercoris duri bili-osi, glutinosi, globatique coacervatio et stagnatio, potenti-tissima quidem purgantia requirunt. Et medicos tandem omnes orbem terrae incolantes universum, ut singuli ob-servationibus suis in lucem proditis, testimoniisque prola-tis methodum sanandi nostrum in conspectu omnium comprobarent tentandis remediis, expereintia discendis eorum virtutes, secundum præstantia superioris rationem, serio petimus. Dantur nonnunquam colicae pictonum, ci-tra notabiles dolores: quas attamen amaurosis, paralysis, aphonia, insequantur. Id observavimus in casu G. A. et sanavimus aegrum.

FINIS

